

# Annual Catalog

## 1915 - 1916



## ANNOUNCEMENT

### 1916-1917

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# THE UNIVERSITY CALENDAR

## 1916-1917

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### 1916

September 20-23,	Entrance examinations and registration
September 25, Monday	Instruction begins, 8:00 a. m.
November 30, Thursday	Thanksgiving holiday
December 22, Friday	Christmas vacation begins, 5:00 p. m.

### 1917

January 8, Monday	Christmas vacation ends, 8:00 a. m.
January 27, Saturday	First semester examinations begin
February 3, Saturday	First semester closes, 5:00 p. m.
February 5, Monday	Second semester opens, 8:00 a. m.
June 2, Saturday	Second semester examinations begin
June 10, Sunday	Baccalaureate sermon
June 13, Wednesday	Commencement day

## BOARD OF TRUSTEES

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*The Governor of Arkansas*.....*Ex-Officio*  
 GEORGE W. HAYS, Little Rock

*The State Superintendent of Public Instruction*.....*Ex-Officio*  
 GEORGE B. COOK, Little Rock

*Date of Expiration  
 of Term*

A. B. BANKS, Fordyce.....	1917
FRANK PACE, Little Rock.....	1917
JAMES D. HEAD, Texarkana.....	1919
JOE K. MAHONY, El Dorado.....	1919
HARRY L. PONDER, Walnut Ridge.....	1919
JAMES K. BROWNING, Piggott.....	1921
Z. LYTTON REAGAN, Fayetteville.....	1921

## OFFICERS OF THE BOARD

Chairman.....Governor GEORGE W. HAYS  
 Secretary and Auditor.....WILLIAM H. CRAVENS, Fayetteville

## COMMITTEES OF THE BOARD

*Executive Committee*—Governor Hays, Chairman; Messrs. Mahony, Pace, and Reagan.

*Finance Committee*—Mr. Banks, Chairman; Messrs. Head and Reagan.

*Teachers' Committee*—Mr. Cook, Chairman; Messrs. Mahony and Head.

*College of Agriculture*—Mr. Browning, Chairman; Messrs. Ponder and Pace.

*Buildings and Grounds*—Mr. Ponder, Chairman; Messrs. Reagan and Browning.

*Branch Normal School*—Mr. Cook, Chairman; Messrs. Banks and Mahony.

*Medical College*—Mr. Cook, Chairman; Messrs. Head and Ponder.

*Board of Control of the Agricultural Experiment Station*—The Committee on the College of Agriculture, the President of the University, and the Director of the Station.

## OFFICERS OF ADMINISTRATION

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Note.—The first date after a title indicates the year of appointment to present rank; the second date, the year of first appointment to any position in the University. Where the two coincide, only one date is given.

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JOHN CLINTON FUTRALL, B. A. (University of Virginia), M. A.  
(University of Virginia).

*President, 1913, 1894.*

WILLIAM NATHAN GLADSON, B. M. E. (Iowa State College),  
E. E. (Iowa State College), Ph. D. (McLemorsville College).

*Vice-President and Dean of the College of Engineering,  
1914, 1894.*

THORGNY CEDRIC CARLSON, B. A. (University of Minnesota).

*Registrar, 1915.*

WILLIAM HAMPTON CRAVENS,

*Auditor and Secretary to the Board of Trustees, 1911.*

JULIA RAMSEY VAULX, B. A. (University of Arkansas), M. A.  
(Cornell University).

*Librarian, 1914.*

GEORGE WESLEY DROKE, B. A. (University of Arkansas), M. A.  
(University of Arkansas).

*Dean of the College of Arts and Sciences, 1915, 1880.*

MARTIN NELSON, B. S. A. (University of Wisconsin), M. S.  
(University of Wisconsin).

*Dean of the College of Agriculture and Director of the  
Agricultural Experiment Station, 1913, 1908.*

JAMES RALPH JEWELL, B. A. (Coe College), M. A. (Coe Col-  
lege), Ph. D. (Clark University).

*Dean of the School of Education, 1913.*

JOHN HAROLD MILLER, B. A. (Central Normal College, Indiana),  
*Director Division of Extension, 1915.*

WILLIAM CASPER LASSETTER, B. S. A. (University of Wisconsin).

*Assistant Director Division of Extension, 1915, 1910.*

MARY ANN DAVIS,

*Dean of Women, 1911.*



FREDERICK WEGENER BOSCHEN, 1st Lieut., 17th Inf., U. S. A.  
*Commandant, 1914.*

\*F. MASON CRUM, B. A. (Wofford College).  
*Secretary of the Young Men's Christian Association, 1915.*

NOAH FIELDS DRAKE, C. E. (University of Arkansas), B. A.  
(Leland Stanford, Jr., University), M. A. (Leland Stanford,  
Jr., University), Ph. D. (Leland Stanford, Jr., University).  
*Curator of the Museum, 1912.*

NINA VASHTI HARDIN, B. A. (University of Arkansas), M. D.  
(University of Arkansas).  
*Superintendent of the Infirmary, 1910.*

THOMAS THURMON MCCONNELL, B. S. A. (Purdue University).  
*Director of Athletics, 1915.*

JUANITA MOORE,  
*Secretary to the President, 1911.*

MRS. FANNIE S. PARK,  
*Superintendent of Carnall Hall, 1907.*

BURR WALTER TORREYSON,  
*Professor of Secondary Education.*

MRS. JESSIE BLOCK WARNER,  
*Superintendent of Men's Dormitories, 1914.*

BIRTON NEILL WILSON, B. Sc. in M. E. (Georgia School of Tech-  
nology), M. E. (University of Michigan).  
*Superintendent of Mechanic Arts, 1906, 1903.*

MARGARET NANCY WILSON, B. A. (Park College).  
*Secretary of the Young Women's Christian Association,  
1912.*

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\*Resigned, November 1, 1915.

## FACULTY

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Note.—The first date after a title indicates the year of appointment to present rank; the second date, the year of first appointment to any position in the University. Where the two coincide, only one date is given.

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‡FRAN ERLING ANDERSON, B. A. (Oberlin College).

*Extension News Editor, 1914.*

MARCELLA ARTHUR, B. S. (Stout Institute).

*Extension Instructor in Home Economics, 1914.*

‡MAYBIN STEELE BAKER, B. S. A. (University of Arkansas).

*Assistant in Agronomy, 1914.*

MARY CUMMINGS BATEMAN,

*Instructor in Voice, 1905.*

†GEORGE GROVER BECKER, B. S. (Maryland Agricultural College).

B. S. A. (Cornell University).

*Assistant Professor of Entomology in charge of Department of Entomology, 1914, 1910.*

MABEL CLAIRE BELL,

*Instructor in Piano, 1909.*

FREDERICK WEGENER BOSCHEN, 1st Lieut. 17th Inf., U. S. A.

*Professor of Military Science and Tactics and Head of Department of Military Science and Tactics, 1914.*

\*WALTER MATTHEW BRISCOE, B. A. (Ouachita College).

*Professor of German and Head of Department of German, 1911.*

BERNARD BROWN, B. A. (University of Nashville), M. S. (University of Illinois).

*Instructor in Physics, 1914.*

HUGH ALEXANDER BROWN, B. S. (University of Illinois), M. S. (University of Illinois).

*Instructor in Electrical Engineering, 1915.*

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‡Resigned, January 1, 1916.

†Member of Experiment Station Staff.

\*Absent on leave, 1915-16.

†GEORGE LESLIE CALDWELL, D. V. M. (Michigan Agricultural College).

*Instructor in Veterinary Science, 1915.*

\*\*CHARLES GEIGER CARROLL, B. A. (Southwestern University), M. A. (Southwestern University), Ph. D. (Johns Hopkins University).

*Professor of Chemistry and Head of Department of Chemistry, 1905.*

WILLIE VANDEVENTER CROCKETT,

*Instructor in Expression, 1905.*

GEORGE CHESTER CURTISS, B. A. (Northwestern University), M. A. (Harvard University).

*Instructor in English, 1915.*

MARY ANN DAVIS,

*Instructor in English, 1911.*

HERMAN WAKEMAN DEAN,

*Instructor in Mechanical Engineering, 1907.*

NOAH FIELDS DRAKE, C. E. (University of Arkansas), B. A. (Leland Stanford, Jr., University), M. A. (Leland Stanford, Jr., University), Ph. D. (Leland Stanford, Jr., University).

*Professor of Geology and Mining Engineering and Head of Departments of Geology and Mining Engineering, 1912.*

GEORGE WESLEY DROKE, B. A. (University of Arkansas), M. A. (University of Arkansas).

*Professor of Mathematics and Head of Department of Mathematics, 1915, 1880.*

BOLLING JAMES DUNN, B. A. (Bethel College), M. A. (Bethel College).

*Associate Professor of Mathematics, 1898, 1894.*

†HENRY EDMUND DVORACHEK, B. S. A. (University of Minnesota).

*Professor of Animal Husbandry and Head of Department of Animal Husbandry, 1915.*

†WALTER SAMUEL FIELDS, B. S. (Michigan Agricultural College).

*Instructor in Plant Pathology, 1913.*

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\*\*Died, February 23, 1916.

†Member of Experiment Station Staff.



ELIZABETH JACKSON GALBRAITH, B. A. (West Tennessee Christian College).

*Instructor in Art, 1906.*

WILLIAM NATHAN GLADSON, B. M. E. (Iowa State College), E. E. (Iowa State College), Ph. D. (McLemorsville College).

*Professor of Electrical Engineering and Head of Department of Electrical Engineering, 1914, 1894.*

†ROLAND M. GOW, D. V. M. (Ohio State University).

*Assistant Professor of Veterinary Science in charge of Department of Veterinary Science, 1914, 1909.*

JAMES RICHARD GRANT, B. A. (University of Arkansas), Ph. B. (Northern Illinois Normal College), M. A. (University of Chicago).

*Assistant Professor of Education and Director of the Training School, 1914, 1912.*

JOHN LEONARD HANCOCK, B. A. (University of Chicago), M. A. (Indiana University), Ph. D. (University of Chicago).

*Instructor in Ancient Languages, 1915.*

\*ARTHUR MCCracken HARDING, B. A. (University of Arkansas), M. A. (University of Chicago).

*Associate Professor of Mathematics, 1907, 1905.*

MARY GARNETT HARGIS,

*Instructor in Romance Languages, 1911, 1908.*

†CLYDE HARMON HEARD, B. S. A. (University of Idaho), M. S. (University of Idaho).

*Instructor in Horticulture, 1915.*

†GEORGE WASHINGTON HERVEY, B. S. (Rutgers College).

*Instructor in Animal Husbandry, 1915.*

†FREDERICK HERMAN HERZER, B. S. A. (Ohio State University).

*Instructor in Animal Husbandry, 1915.*

†JOSEPH LEE HEWITT, B. S. A. (University of Missouri).

*Professor of Plant Pathology and Head of Department of Plant Pathology, 1910, 1905.*

JOELLE HOLCOMBE, B. A. (University of Arkansas), M. A. (Cornell University).

*Instructor in English, 1914, 1907.*

†Member of Experiment Station Staff.

\*Absent on leave, 1915-16.



FRANCIS ALDRIDGE HUMPHREYS, B. M. E. (University of Arkansas).

*Instructor in Shops, 1915.*

†DEFOREST HUNGERFORD, B. S. (Kansas State Agricultural College), M. S. (University of Minnesota).

*Assistant Professor of Agronomy, 1915.*

CAROLINE LOUISE JENKS, B. A. (University of Michigan).

*Instructor in Education, 1916.*

JAMES RALPH JEWELL, B. A. (Coe College), M. A. (Coe College), Ph. D. (Clark University).

*Professor of Education and Head of Department of Education, 1913.*

VIRGIL LAURENS JONES, B. A. (University of North Carolina), Ph. D. (Harvard University).

*Professor of English and Head of Department of English, 1915, 1911.*

ARTHUR MELVILLE JORDAN, B. A. (Randolph-Macon College), M. A. (Trinity College, North Carolina).

*Assistant Professor of Education, 1915, 1914.*

EARL KILPATRICK, B. S. (Oklahoma Agricultural and Mechanical College).

*Extension Instructor in Agronomy, 1914.*

JULIUS JAMES KNOCH, B. S. (Grove City College), M. S. (Grove City College), C. E. (Cornell University).

*Professor of Civil Engineering and Head of Department of Civil Engineering, 1896, 1893.*

VIRGIL PROCTOR KNOTT, B. C. E. (University of Arkansas).

*Associate Professor of Civil Engineering, 1907, 1904.*

JOHN SAMUEL KNOX, B. S. (Clemson Agricultural College), M. S. A. (University of Idaho).

*Extension Instructor in Horticulture, 1914.*

ALVA LILLIAN LAWSON, B. A. (University of Arkansas), M. A. (University of Arkansas).

*Assistant in English, 1915.*

ALFRED EDWIN LUSSKY, B. A. (Concordia College, Indiana), B. D. (Concordia Theological Seminary, Missouri), M. A. (University of Illinois).

†Member of Experiment Station Staff.

*Professor of German and Acting Head of Department of German, 1915.*

ANTONIO MARINONI, B. A. (Desenzano, Italy), M. A. (Yale University).

*Professor of Romance Languages and Head of Department of Romance Languages, 1906, 1905.*

†CLIFFORD LESLIE MCARTHUR, B. S. (Oklahoma Agricultural and Mechanical College), M. S. (University of Idaho).

*Assistant Professor of Bacteriology and Pathology in charge of Department of Bacteriology and Pathology, 1915, 1913.*

JOHN HAYNE MCLEOD, B. S. (Texas Agricultural and Mechanical College), M. S. (University of Wisconsin).

*Extension Instructor in Animal Husbandry, 1914.*

GERTRUDE ANNA MEHLBURGER,  
*Assistant in German, 1915.*

EVELYN JOAN METZGER,  
*Instructor in Art, 1910.*

MARY ELIZABETH METZGER, Diploma in Home Economics (Milwaukee-Downer College).

*Instructor in Home Economics, 1914.*

CLARA MILLER, Ph. B. (University of Chicago).  
*Instructor in Physical Education for Women, 1912.*

WILSON LEE MISER, B. A. (University of Arkansas), M. A. (Yale University), Ph. D. (University of Chicago).

*Assistant Professor of Mathematics, 1915.*

BRAINERD MITCHELL, JR., B. M. E. (University of Arkansas), M. E. (University of Arkansas).

*Assistant Professor of Mechanical Engineering, 1908, 1905.*

OWEN MITCHELL,  
*Instructor in Music, 1913.*

HUGH ELLIS MORROW, B. S. A. (University of Arkansas).  
*Associate Professor of Chemistry, 1907, 1904.*

WALLACE CARL MURPHY, B. A. (University of Arkansas), M. A. (University of Chicago).

*Assistant Professor of History and Political Science, 1913.*

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†Member of Experiment Station Staff.

†MARTIN NELSON, B. S. A. (University of Wisconsin), M. S. (University of Wisconsin).

*Professor of Agronomy and Head of Department of Agronomy, 1913, 1908.*

EDWIN GRISWOLD NOURSE, B. A. (Cornell University), Ph. D. (University of Chicago).

*Professor of Economics and Sociology and Head of Department of Economics and Sociology, 1915.*

†LYNN WESLEY OSBORN, B. S. A. (Iowa State College).

*Instructor in Agronomy, 1914, 1913.*

RUTH ANNETTE PECK, B. S. (University of Wisconsin).

*Instructor in Home Economics in charge of Department of Home Economics, 1915.*

FRANK WELLBORN PICKEL, B. A. (Furman University), M. S. (University of South Carolina), M. Sc. (University of Chicago).

*Professor of Biology and Head of Department of Biology, 1899.*

†JAMES BURNES RATHER, B. S. (Texas Agricultural and Mechanical College), M. S. (Texas Agricultural and Mechanical College), M. A. (Johns Hopkins University).

*Professor of Agricultural Chemistry and Head of Department of Agricultural Chemistry, 1915.*

GILES EMMETT RIPLEY, B. S. (Purdue University), M. S. (Purdue University).

*Professor of Physics and Head of Department of Physics, 1908.*

‡MABEL SANBORN,

*Instructor in Education, 1912.*

†HERMAN AUSTIN SANDHOUSE, B. S. A. (Colorado Agricultural College,

*Instructor in Animal Husbandry, 1915.*

KATE WITHERS SIMPSON,

*Instructor in Education, 1910.*

WILLIAM BOYD STELZNER, B. E. E. (University of Arkansas), E. E. (University of Arkansas).

*Adjunct Professor of Electrical Engineering, 1909.*

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†Member of Experiment Station Staff.

‡Resigned, January 1, 1916.

HENRY HARRISON STRAUSS, B. A. (Wooster College), M. A. (Tulane University).

*Professor of Ancient Languages and Head of Department of Ancient Languages, 1914, 1913.*

DAVID YANCEY THOMAS, B. A. (Emory College), M. A. (Vanderbilt University), Ph. D. (Columbia University).

*Professor of History and Political Science and Head of Department of History and Political Science, 1912, 1907.*

HENRY DOUGHTY TOVEY,

*Professor of Music and Director of Department of Fine Arts, 1908.*

JULIAN SEESEL WATERMAN, B. A. (Tulane University), M. A. (University of Michigan).

*Instructor in Economics and Sociology, 1914.*

SAMUEL NISLEY WHITMAN, B. S. (Pennsylvania State College).

*Instructor in Civil Engineering, 1915.*

†WILLIAM HALE WICKS, B. S. A. (Oregon Agricultural College), M. S. (Oregon Agricultural College), M. S. A. (Cornell University).

*Professor of Horticulture and Head of Department of Horticulture, 1914.*

†EDGAR GREGORY WILL, B. S. (Ohio State University).

*Instructor in Agricultural Chemistry, 1915.*

ROGER WILLIAMS, B. A. (Ouachita College), M. A. (Harvard University).

*Assistant Professor of English, 1914, 1911.*

BIRTON NEILL WILSON, B. Sc. M. E. (Georgia School of Technology), M. E., (University of Michigan).

*Professor of Mechanical Engineering and Head of Department of Mechanical Engineering, 1903, 1896.*

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†Member of Experiment Station Staff.



STANDING COMMITTEES OF THE  
UNIVERSITY SENATE  
1915-1916

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*Accredited Schools*—Professors Thomas, Nourse, Hewitt, Stelzner, Grant.

*Advisers*—Deans Nelson, Gladson, Jewell, Droke.

*Athletic Board*—President Futrall, Professors Gladson, Marinoni, Wilson, Droke.

*Catalog*—Professors Jones, Ripley, Dvorachek, Jordan, Mr. Carlson.

*Commencement*—Professors Ripley, Drake, Tovey, Grant, Miss Hargis, Miss Holcombe, Mrs. Crockett.

*Discipline and Attendance*—Professors Drake, Gladson, Jewell, Strauss, Boschen, Miss Davis.

*Extension*—Professors Miller, Marinoni, Jewell, Gladson, Jones.

*Graduate Study*—Professors Jewell, Knoch, Carroll, Nelson, Marinoni.

*Honorary and Higher Degrees*—Professors Droke, Wicks, Pickel, Knott, Mr. H. A. Brown.

*Honors*—Professors Knoch, Hewitt, Nourse, Jordan, Dr. Hancock.

*Intercollegiate Debating*—Professors Nourse, Thomas, Williams, Murphy, Mr. Waterman.

*Library*—Professors Drake, Rather, Murphy, Mr. Curtiss, Miss Vaulx.

*Schedule*—Professors Wilson, Wicks, Pickel, Grant, Williams.

*Statistics*—Professors Carroll, Mitchell, Stelzner, Morrow, Mr. B. Brown, Mr. Carlson.

*Student Affairs*—Professors Gladson, Jones, Dunn, Miss Davis, Miss Holcombe.

*Student Organizations*—Professors Carroll, Strauss, Knoch, Miser, Hungerford.

*Student Publications*—Professors Boschen, Jones, Ripley, Mr. Waterman, Dr. Hancock.

## GENERAL INFORMATION

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### LOCATION

The University of Arkansas is situated in Fayetteville, Washington County, in the northwestern part of the state, in the heart of the Ozark Mountains. The elevation of the town is about 1,500 feet. The surroundings are of great natural beauty, and the climate of the region is excellent.

Fayetteville may be reached both from the north and from the south by the Texas branch of the St. Louis and San Francisco ("Frisco") Railroad. The Muskogee division communicates with the west.

The moral and religious conditions of the community are most favorable. There are fourteen churches in the town, representing nine denominations. The pastors of these churches actively interest themselves in the moral and spiritual welfare of the students.

By an act of the general assembly of the state, the liquor traffic has been barred from Fayetteville. Intoxicating liquore cannot be sold or given away within five miles of the University.

### HISTORY

The University of Arkansas owes its origin to an Act of Congress, approved July 2, 1862, providing that public lands should be granted to the several states, to the amount of "30,000 acres for each senator and representative in Congress," from the sale of which there should be established a perpetual fund, "the interest of which shall be inviolably appropriated by each state, which may take and claim the benefit of this act, to the endowment, support, and maintenance of at least one college, where the leading object shall be, without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislature of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." This act forbids the use of any portion of the aforesaid fund, or the interest thereon, for the pur-

chase, erection, or maintenance of any building or buildings. The states accepting the provisions of the act are required to provide for the construction and maintenance of the necessary buildings, and for the expenses of administration in carrying out the purposes of the act.

The general assembly of the state of Arkansas accepted the national law by passing an act, approved March 27, 1871, which provided for the location, organization, and maintenance of the University of Arkansas. Fayetteville, Washington County, was selected as the seat of the University and the institution opened on January 22, 1872.

The Experiment Station owes its origin to an act of Congress of March 2, 1887 (the Hatch Act), under which the University receives \$15,000 annually for the maintenance of the experiment station, "to aid in acquiring and diffusing among the people useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science." In 1906 the congress passed an act increasing this appropriation by the sum of \$5,000 the first year, and providing for an additional increase of \$2,000 per annum, until such increased appropriation shall reach \$15,000 annually.

Under an act of Congress, approved August 30, 1890, the University receives \$25,000 annually, "to be applied only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural, and economic science, with special reference to their application to the industries of life."

On March 4, 1907, the Congress passed an act increasing this appropriation at the rate of \$5,000 per annum, until the total amount appropriated annually shall reach \$50,000.

#### RESOURCES

The university owns at Fayetteville equipment, buildings, and grounds estimated to be worth about \$750,000. The productive funds, derived entirely from federal land grants, amount to \$130,000. It receives annually from the federal government for the support of the agricultural and mechanical college \$36,363. It also receives annually from the federal government \$30,000 for the agricultural experiment station. For the biennium beginning July 1, 1915, it receives an annual state appropriation of ap-

proximately \$110,000. For the year 1915-16, it receives from state and federal governments an appropriation of approximately \$43,000 for extension work in agriculture and home economics. The expenditures for the year ending June 30, 1915, were \$267,031.31.

#### BUILDINGS AND EQUIPMENT

The University campus comprises a tract of land of about one hundred twenty acres, including some fifteen buildings. The University has its own heating plant and is supplied with electric light and water from the city plants.

Detailed descriptions of the buildings and laboratories used by the separate colleges will be found in the sections of this catalog devoted to those colleges.

*The Infirmary.* In order to safeguard the health of the students, the University has provided a well equipped infirmary in the charge of a trained nurse. This is furnished with an open ward for men and one for women, a private ward for men and one for women, and a well isolated contagious ward.

*Dormitories.* Three dormitories are provided for the housing of men students. *Buchanan Hall* is a three-story, brick structure and contains about forty student rooms. *Hill Hall*, named in honor of Lieutenant-General D. H. Hill, C. S. A., who served as President of the University from 1877 to 1884, was erected in 1901. It is a three-story brick structure, containing a dining hall, kitchen, and store-room, and about twenty rooms for students. *Gray Hall*, erected in 1905, was named in honor of Colonel O. C. Gray, C. S. A., sometime professor of mathematics in the University. The building is two stories in height, is built of brick, and contains sixty-eight student rooms.

The dormitory for young women, *Carnall Hall*, erected in 1905, was named in honor of Miss Ella Carnall, Ph. M., sometime associate professor of English and modern languages in the University. The building is of brick construction and has three stories. It contains rooms sufficient for about one hundred students, with parlors, a dining room, and a recreation room.

*The Library.* The general library now occupies the south wing of the first floor of University Hall, which provides a commodious and well-lighted room for study. The total number of volumes, with new accessions, is about 20,000 bound, and 2,000 unbound, exclusive of government publications. There are, in addition to the main library, departmental libraries in the



College of Agriculture, the School of Education, the Departments of Mathematics, Biology, Chemistry, Geology and Mining, Physics, and Civil, Mechanical, and Electrical Engineering, devoted to these particular branches. These contain about 10,000 bound, and 3,000 unbound volumes.

*The Women's Gymnasium.* For instruction in physical education for the young women students, there is provided a gymnasium in the south wing of the basement floor of University Hall. It has been equipped, as far as means were available, with modern apparatus, and is provided with lockers, dressing rooms, and shower baths.

*The Athletic Field.* For the accommodation of the University football and baseball teams and spectators there is an excellent athletic field with a covered grandstand and bleachers. The baseball diamond has recently been rebuilt and greatly improved, the size of the athletic field has been almost doubled, and a first-class quarter-mile running track and football field are under construction. When the improvements now under way are completed, the facilities afforded for outdoor exercises will be sufficient for the accommodation of a large number of students.

*The Book Store.* The book store on the first floor of University Hall carries a complete line of all required text-books and supplies for the convenience of students.

#### GOVERNMENT

The government of the University is vested primarily in a Board of Trustees, consisting of the Governor of the State and the State Superintendent of Public Instruction, as ex-officio members, and seven other members, appointed by the Governor for a term of six years.

The administration of the University is vested in the President, the University Council, the University Senate, and the Faculties and Deans of the various colleges.

The President is the administrative head of the University. The University Council is composed of the President, the Deans of the several colleges, and four other members, appointed by the President. The Council is the central executive body of the University and is advisory to the President.

The University Senate is composed of the President, the Registrar, the Deans, and all heads of departments and professors. The Senate is the general legislative body of the University.

The Faculty of each college within the University has jurisdiction, subject to higher University authority, over all matters that concern exclusively that college.

The Dean of each college is responsible for the carrying out of all University regulations within his college. The Dean of Women acts as an adviser to women undergraduate students and is charged with the general care and conduct of these students.

#### SUMMER SESSION

The seventh summer session of the University will open on June 12 and will close on July 22, 1916.

Courses in preparatory and college subjects will be offered by members of the regular corps of instructors. A model school will be conducted for practice in primary, grammar school, and high school methods.

Courses completed in the summer session will be credited towards a degree, provided that seven semester hours is the maximum that may be earned in any one session.

More detailed information in regard to the courses offered, matriculation, and registration may be had from the Summer Session Bulletin, which will be sent on request. Applications should be addressed to the Registrar, University of Arkansas, Fayetteville.

## ADMISSION

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### \*GENERAL REQUIREMENTS

Admission to any college or school of the University may be obtained either by certificate from an accredited high school or preparatory school or by examination. For unconditional entrance, the candidate must offer at least fourteen units of high school or preparatory work so chosen as to include those subjects prescribed by the college or school he desires to enter. Where a candidate is deficient in not to exceed three units, he may be allowed conditional entrance, with the provision that all such deficiencies must be removed during the first year of his attendance at the University, either by private study and examination or by offering high school courses or university courses of a preparatory nature in satisfaction of the deficiencies. It should be understood that students who are admitted to the University with conditions of more than one unit, as a rule, will find it necessary to attend an additional semester or year in order to meet the requirements for a degree.

### ADMISSION BY EXAMINATION

Entrance examinations are offered at the University during the opening week of school, September 20 to 23, inclusive,

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\*The following change in the general admission requirements will go into effect September 1, 1917:

The basis of unconditional entrance shall be a four-year high school course of not less than fourteen units. A student may be admitted conditionally with twelve units, but all such conditions must be made up during his first year of attendance at the University. Any student entering with less than four full years of high school work shall be conditioned on two units. Any such student who has completed fourteen or more units in acceptable courses in the high school may have his condition removed by making a passing grade on twelve hours of work in the first semester of the freshman year; otherwise he shall make up his condition in the usual manner.

Students living at a distance from the University may secure special examinations to be conducted by the principal or the county examiner under conditions that will be indicated when the application is made. Requests for such examinations must be mailed so as to reach the Registrar not later than September 1.

#### ADMISSION BY CERTIFICATE

Students may enter the freshman class by certificate from any high school or preparatory school in the state accredited to the University in eleven or more units, or from any high school or preparatory school in another state similarly accredited to the state university of that state. An official statement of the student's record containing specific information as to the kind and extent of work done should be mailed to the Registrar of the University not later than September 1. Blank forms for this purpose will be furnished upon request. *Diplomas of graduation will not be accepted in lieu of certificates.*

Students who have been admitted to another college or university of equal standing will be allowed to enter without conditions upon presenting a certificate of honorable discharge and an official statement of the work accepted for entrance by the institution last attended, provided it appears that such work is substantially equivalent to the work required for entrance to this University.

#### OUTLINE OF ENTRANCE REQUIREMENTS

##### COLLEGE OF ARTS AND SCIENCES

The following units are prescribed for the course leading to the degree of *Bachelor of Arts*:

- English, three units.
- Algebra, one unit.
- Geometry, one unit.
- History, one unit.

French, German, Greek, Latin, or Spanish, three units, at least two of which must be in the same language. Where a student is not able to meet this requirement at entrance, he may be allowed to take as a part of his college course, in addition to the



language requirement for a degree, one year-course in foreign language of not less than three hours for each entrance unit he is deficient.

Enough additional units to bring the total to fourteen, including not more than four units in vocational and business subjects.

The following units are prescribed for the course leading to the degree of *Bachelor of Science in Chemistry*:

English, three units.

Algebra, one unit.

Geometry, one unit.

History, one unit.

Physics, one unit.

Enough additional units to bring the total to fourteen, including not more than four units in vocational and business subjects.

The following units are prescribed for the special courses in music:

English, three units.

History, one unit.

French, German, Greek, Latin, or Spanish, three units, at least two of which must be in the same language. Where a student is not able to meet this requirement at entrance, he may be allowed to take as a part of his college course, in addition to the language requirement for a diploma, one year-course in foreign language of not less than three hours for each entrance unit he is deficient.

Enough additional units to bring the total to fourteen, including not more than four units in vocational and business subjects. A maximum of three units in music may be used as part of the elective work.

*SCHOOL OF EDUCATION*

The following units are prescribed for all courses in the school:

English, three units.

History, one unit.

Science, one unit.

Enough additional units to bring the total to fourteen, including not more than four units in vocational and business subjects.

*COLLEGE OF ENGINEERING*

The following units are prescribed for all of the four-year courses in the college:

English, three units.

Algebra, one and one-half units.

Geometry, one unit.

History, one unit.

Enough additional units to bring the total to fourteen, including not more than four units in vocational and business subjects.

*COLLEGE OF AGRICULTURE*

The following units are prescribed for the four-year course:

English, three units.

Algebra, one and one-half units.

Geometry, one unit.

History, one unit.

Science, one unit.

Enough additional units to bring the total to fourteen, including not more than four units in vocational and business subjects.

## DESCRIPTION OF SUBJECTS ACCEPTED FOR ADMISSION

The following statements indicate in a general way the preparation which the University expects in the various subjects accepted for admission. The numbers in parentheses following each subject indicate the minimum and maximum number of units which may be offered in that subject. The term unit is understood to represent a high school or preparatory course continued through a school year of thirty-six weeks with five recitations of forty-five minutes each per week.

## ENGLISH (3-4)

In order to secure a definite plan of study and unity of method on the part of preparatory schools, the entrance requirement in English is outlined below somewhat in detail, following the recommendations of the National Conference on Uniform Entrance Requirements in English.

The study of English in school has two main objects: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation.

*Grammar and Composition*—The first object requires instruction in grammar and composition. English grammar should ordinarily be reviewed in the secondary school; and correct spelling and grammatical accuracy should be rigorously exacted in connection with all written work during the four years. The principles of English composition governing punctuation, the use of words, sentences, and paragraphs should be thoroughly mastered; and practice in composition, oral as well as written, should extend throughout the secondary-school period. Written exercises may well comprise letter-writing, narration, description, and easy exposition and argument. It is advisable that subjects for this work be taken from the student's personal experience, general knowledge, and studies other than English, as well as from his reading in literature. Finally, special instruction in language and composition should be accompanied by concerted effort of teachers in all branches to cultivate in the student the habit of using good English in his recitations and various exercises, whether oral or written.

*Literature*—The second object is sought by means of two lists of books, headed respectively *Reading* and *Study*, from which may be framed a progressive course in literature covering four years. In connection with both lists, the student should be trained in reading aloud and be encouraged to commit to memory some of the more notable passages both in verse and in prose. As an aid to literary appreciation, he is further advised to acquaint himself with the most important facts in the lives of the authors whose works he reads and with their place in literary history.

4. *Reading*.—The aim of this course is to foster in the student the habit of intelligent reading and to develop a taste for good literature by giving him a first-hand knowledge of some of the best specimens. He should read the books carefully, but his attention should not be so fixed

upon details as to cause his missing the main purpose and charm of what he reads.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from each of which at least two selections are to be made, except as otherwise provided under Group I.

Group I. *Classics in Translation*—*The Old Testament*, comprising at least the chief narrative episodes in *Genesis*, *Exodus*, *Joshua*, *Judges*, *Samuel*, *Kings*, and *Daniel*, together with the books of *Ruth* and *Esther*. The *Odyssey*, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII. The *Iliad*, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI. The *Æneid*. The *Odyssey*, *Iliad*, and *Æneid* should be read in English translations of recognized literary excellence.

For any selection from this group a selection from any other group may be substituted.

Group II. *Drama*.—Shakespeare, *Midsummer Night's Dream*, *Merchant of Venice*, *As You Like It*, *Twelfth Night*, *The Tempest*, *Romeo and Juliet*, *King John*, *Richard II*, *Richard III*, *Henry V*, *Coriolanus*, *Cæsar*, *Macbeth*, *Hamlet*. (No one of the last three may be taken if chosen for study under B.)

Group III. *Prose Fiction*.—Malory, *Morte d'Arthur* (about 100 pages); Bunyan, *Pilgrim's Progress*, Part I; Swift, *Gulliver's Travels* (voyages to Lilliput and to Brobdingnag); Defoe, *Robinson Crusoe*, Part I; Goldsmith, *The Vicar of Wakefield*; Frances Burney (*Madame d'Arblay*),  *Evelina*; Scott, any one of the novels; Jane Austen, any one of the novels; Maria Edgeworth, *Castle Rackrent*, or *The Absentee*; Dickens, any one of the novels; Thackeray, any one of the novels; George Eliot, any one of the novels; Mrs. Gaskell, *Cranford*; Kingsley, *Westward Ho!* or *Hereward, the Wake*; Reade, *The Cloister and the Hearth*; Blackmore, *Lorna Doone*; Hughes, *Tom Brown's School Days*; Stevenson, any one of the novels which are out of copyright; Cooper, any one of the novels; Poe, *Selected Tales*; Hawthorne, any one of the novels which are out of copyright; a collection of *Short Stories* by various standard writers.

Group IV. *Essays and Biographies*—Addison and Steele, *The Sir Roger de Coverley Papers*, or selections from *The Tatler* and *The Spectator* (about 200 pages); Boswell, Selections from the *Life of Johnson*, (about 200 pages); Franklin, *Autobiography*; Irving, Selections from the *Sketch Book* (about 200 pages), or the *Life of Goldsmith*; Southey, *Life of Nelson*; Lamb, Selections from the *Essays of Elia* (about 100 pages); Lockhart, Selections from the *Life of Scott* (about 200 pages); Thackeray, Lectures on *Swift*, *Addison*, and *Steele* in the *English Humorists*; Macaulay, one of the following essays: *Lord Clive*, *Warren Hastings*, *Milton*, *Addison*, *Goldsmith*, *Frederic the Great*, *Madame d'Arblay*; Trevelyan, Selections from the *Life of Macaulay* (about 200 pages); Ruskin, *Sesame and Lilies*, or *Selections* (about 150 pages); Dana, *Two Years before the Mast*; Lincoln, *Selections*, including at least the two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, and the letter to Horace Greeley, together with a brief memoir or estimate of Lincoln; Parkman, *The Oregon Trail*; Thoreau, *Walden*;



Lowell, *Selected Essays* (about 150 pages); Holmes, *The Autocrat of the Breakfast Table*; Stevenson, *An Inland Voyage and Travels with a Donkey*; Huxley, *Autobiography* and selections from *Lay Sermons*, including the addresses on *Improving Natural Knowledge*, *A Liberal Education*, and *A Piece of Chalk*; a collection of *Essays* by Bacon, Lamb, De Quincey, Hazlitt, Emerson, and later writers; a collection of *Letters* by various standard writers.

Group V. *Poetry*—Palgrave, *Golden Treasury (First Series)*, Books II and III, with special attention to Dryden, Collins, Gray, Cowper, and Burns; Palgrave, *Golden Treasury (First Series)*, Book IV, with special attention to Wordsworth, Keats and Shelley (if not chosen for study under B); Goldsmith, *The Traveller* and *The Deserted Village*; Pope, *The Rape of the Lock*; a collection of English and Scottish *Ballads*, as for example, *Robin Hood* ballads, *The Battle of Otterburn*, *King Estmere*, *Young Beichan*, and *Bewick and Grahame*, *Sir Patrick Spens*, and a selection from later ballads; Coleridge, *The Ancient Mariner*, *Christabel*, and *Kubla Khan*; Byron, *Childe Harold*, Canto III, or Canto IV, and *The Prisoner of Chillon*; Scott, *The Lady of the Lake*, or *Marmion*; Macaulay, *The Lays of Ancient Rome*, *The Battle of Naseby*, *The Armada*, *Ivry*; Tennyson, *The Princess*, or *Gareth and Lynette*, *Lancelot and Elaine* and *The Passing of Arthur*; Browning, *Cavalier Tunes*, *The Lost Leader*, *How They Brought the Good News from Ghent to Aix*, *Home Thoughts from Abroad*, *Home Thoughts from the Sea*, *Incident of the French Camp*, *Herze Riel*, *Phedippides*, *My Last Duchess*, *Up at a Villa*, *Dowry in the City*, *The Italian in England*, *The Patriot*, "De Gustibus—," *The Pied Piper*, *Insans Tyrannus*; Arnold, *Schrah and Rustum* and *The Forsaken Merchant*; Selections from American poetry, with special attention to Poe, Lowell, Longfellow, and Whittier.

B. *Study and Practice*—This part of the requirement is intended as a natural and logical continuation of the student's earlier reading, with greater stress laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions. The books provided for study are arranged in four groups, from each of which one selection is to be made.

Group I. *Drama*—Shakespeare, *Julius Caesar*; *Macbeth*; *Hamlet*.

Group II *Poetry*—Milton, *L'Allegro*, *Il Penseroso*, and either *Comus* or *Lycidas*; Tennyson, *The Coming of Arthur*, *The Holy Grail*, and *The Passing of Arthur*; the selections from Wordsworth, Keats, and Shelley in Book IV of Palgrave's *Golden Treasury (First Series)*.

Group III *Oratory*—Burke, *Speech on Conciliation with America*; Macaulay, *Speeches on Copyright* and Lincoln, *Speech at Cooper Union*; Washington, *Farewell Address*, and Webster, *First Bunker Hill Oration*.

Group IV *Essays*—Carlyle *Essay on Burns*, with a selection from *Burns's Poems*; Macaulay, *Life of Johnson*; Emerson, *Essay on Manners*.

## MATHEMATICS

*Elementary Algebra* (1)—Positive and negative numbers; addition; subtraction; multiplication; division; factoring; highest common divisor and lowest common multiple by factoring; fractions; equations of the first degree in one, two, and three unknowns, with numerous problems

involving such equations; involution (omitting the binomial theorem); evolution (omitting cube root); elementary manipulation of surds; irrational equations that lead to equations of the first degree; pure quadratic equations; affected quadratic equations by the method of completing the square and by factoring, with problems involving such equations. Hawkes-Luby-Touton, *First Course in Algebra* or its equivalent will be accepted as a satisfactory text.

*Higher Algebra* (1)—A review of elementary algebra with more difficult problems and with some demonstrational work; theory of quadratics, simultaneous quadratics, inequalities, ratio and proportion, variation, progressions (arithmetical, geometrical, and harmonical), binomial theorem, and logarithms. Hawkes-Luby-Touton, *Second Course in Algebra* will be accepted as a satisfactory text.

*Plane Geometry* (1)—Any of the standard texts on this subject will furnish the necessary preparation. The exercises requiring solutions and demonstrations should be emphasized.

*Solid Geometry* (1)—Any of the standard texts on this subject will furnish the necessary preparation. The exercises requiring solutions and demonstrations should be emphasized.

*Plane Trigonometry* (1)—Any of the standard texts on this subject will furnish the necessary preparation. The exercises requiring solutions and demonstrations should be emphasized.

## HISTORY AND SOCIAL SCIENCES.

### HISTORY

*Ancient History* (1-1)—The completion of a standard text-book, with emphasis on the history of Greece and Rome and some attention to geography, will satisfy the requirements for one unit.

*Medieval and Modern History* (1-1)—The completion of a standard text covering the history of Europe in medieval and modern times, some parallel reading, and a knowledge of the geography involved, will satisfy the requirements for one unit.

*English History* (1-1)—An advanced high school text should be used. Constitutional points should receive attention, and easily accessible documents should receive careful study.

*American History* (1-1)—An advanced high school text should be used and the subject should be taken preferably in the senior year. Current newspapers and magazines should be assigned as collateral reading.

### SOCIAL SCIENCES

*Civil Government* (1)—This should be a study of our government, national, state, and local, as it is organized and actually operated today. The instruction should aim to impart information essential to intelligent, active citizenship, such as the division of the government into departments, their organization and function; the methods of nominating, electing, and appointing men to office; of framing and amending constitutions, city charters, and statutes; of drawing grand and petit juries and the duty of the citizen to serve on them; the distinction between

common law, state law, and constitutional law, between equity, civil, and criminal cases.

*Elementary Economics* (½)—In the study of economics it is desirable to avoid two extremes, abstract theory on the one hand, and controversial questions, such as the tariff, trusts, and trade unions, on the other hand. Emphasis should be placed on historical and descriptive matter, especially relating to the economic development of England and the United States. Some good elementary text-book should be mastered and a reasonable amount of collateral reading required.

*Commercial Geography* (½)—This describes and seeks to explain the commerce of today. The work should cover the ways in which commerce depends on nature and on man, the development of means of transportation and communication, and a detailed study of the several commercial regions of the world with reference to resources, industries, transportation facilities, and commerce. It should be based on a text-book supplemented by map work and assigned readings.

## LANGUAGES

### LATIN

*Latin Grammar* (1)—This should include a thorough grounding in some standard elementary Latin Grammar, such as Bennett, Hale-Buch, or Allen and Greenough, revised edition. Proficiency is particularly desired in the following subjects: the analysis of the verb forms, the rules of syntax, and the principal parts of the irregular verbs.

*Caesar* (½-1)—First four books or selections from the seven books equivalent to four. The student is expected to be familiar with the life of Caesar and an account of his wars.

*Cicero* (½-1)—Any four orations from the following list: *Against Catiline*, *Poet Archias*, *Ligarius*, *Marcellus*, *Mansilian Law* (to count as two orations), the fourteenth *Philippic*. The student should also be familiar with the life of Cicero.

*Vergil* (½-1)—Six books of the *Æneid*. The student should be familiar with the life of Vergil and an account of his times and writings. A correct rythmical reading of the text is to be encouraged.

### GREEK

*Greek Grammar* (1)—This should include a thorough grounding in some standard elementary Greek Grammar, such as White's *First Greek Book*, with translation from Xenophon's *Anabasis*, Book I.

*Xenophon's Anabasis* (1-2)—Four books, accompanied by work in grammar and composition.

### GERMAN

*German Grammar* (1)—The student should know the rudiments of grammar and be able to read easy prose at sight and to translate simple English sentences into German.

*Advanced German* (1-3)—The student should be able to read modern German prose and poetry at sight and to translate easy English narrative into German. A considerable amount of reading from such authors as

Riehl, Heyse, Freytag, Baumbach, Heine, Goethe, and Schiller will be expected.

## FRENCH

*French Grammar* (1)—The student should be familiar with elementary French grammar, with special attention to the irregular verbs. He should be able to read easy prose at sight and to translate simple English sentences into French.

*Advanced French* (1-3)—The student should be able to read standard French prose and poetry at sight and to translate easy English narrative into French. A considerable amount of reading from such authors as Daudet, Loti, Sandeau, Dumas, Augier, Labiche and Martin, and Hugo will be expected.

## SPANISH

*Spanish Grammar* (1)—The student should be familiar with elementary Spanish grammar and should be able to read easy prose and to translate simple English sentences into Spanish.

*Advanced Spanish* (1)—The students should be able to read standard Spanish prose and poetry at sight and to translate easy English narrative into Spanish.

## NATURAL SCIENCES

All of the courses in natural science should include at least two periods of laboratory work per week.

*General Science* (3-1)—This should include a study of the earth and the sun in their relations to man, based on some such text as Snyder's *First Year Science*. All branches of elementary science should be included.

*Physiology* (3-1)—This should include a thorough study of some standard high school text such as Hough and Lee or Martin, with notebooks, drawings, individual laboratory instruction, and demonstration work.

*Physical Geography* (3-1)—A thorough study of any standard high school text supplemented by laboratory exercises will satisfy the requirements.

*Physics* (3-1)—This should include a study of at least four of the following topics: mechanics of solids, liquids, and gases, sound, heat, light, electricity, and magnetism, based on some standard high school text and supplemented by laboratory exercises.

*Chemistry* (3-1)—The full year's work should include a study of both the metals and non-metals with laboratory experiments to illustrate the common chemical laws and the more simple chemical reactions.

*Biology* (3-1)—A thorough study of any standard high school text supplemented by laboratory exercises will satisfy this requirement.

*Botany* (3-1)—The course should follow as closely as possible the nature and work of plants during the changing seasons of the year. The major portion of the work should be with living plants, naming the



common plants of the neighborhood, both cultivated and native, and studying plant parts from seed to maturity.

*Zoology* (1-1)—Animals should be studied as living units in their relation to one another and their environments. This study should include developmental stages as well as the adult stage. The aim of the teacher should be to foster a love for animate nature and to develop accuracy in observation and description.

### VOCATIONAL SUBJECTS.

Not more than four units are allowed in the following vocational subjects, including business subjects, manual subjects, domestic art and science, and agriculture.

#### BUSINESS SUBJECTS

*Business Law* (1)—Text-book supplemented by study of a few typical cases, and practice in drawing up ordinary legal papers, such as bills, notes, checks, etc.

*Business Arithmetic* (1)—The object is, first of all, absolute accuracy and, secondly, speed in ordinary business complications. The topics to be emphasized are fundamental operations, common fractions having as denominator 2, 3, 4, 6 and 8, a few common weights and measures, percentage and its applications, and useful short methods, especially interest and other calculation tables. The work should be based on text-book, supplemented by numerous live exercises from current sources.

*Elementary Bookkeeping* (1)—A text-book should be employed with exercises so arranged that no two pupils will do exactly the same work, and no credit should be allowed unless the work is done neatly, accurately, and at a satisfactory rate of speed. It is suggested that double periods be provided, and all work be done in class under the eye of the instructor. The set used should include the journal, cash book, sales book, ledger, check book, bank pass book, and trial balance book.

*Advanced Bookkeeping and Business Practice* (1)—Thorough drill on standard business forms, such as bills, receipts, checks, notes, etc., also on the use and meaning of business symbols and abbreviations. The student should become acquainted with the bill book and invoice book, and loose leaf and voucher systems of bookkeeping. Each student should carry on a business of his own, first as an individual, then as a partnership, and finally as a corporation. Credit on this course should mean that the student lacks only age and actual business experience to become a competent bookkeeper.

*Stenography and Typewriting* (1)—This work is expected to occupy not less than two periods daily for two years. No credit should be given for either shorthand or typewriting if taken alone. Nothing but the touch method should be used in typewriting. The essentials are, first, accuracy and speed in taking dictation and transcribing notes; secondly, correct spelling, capitalization, punctuation, and paragraphing. The minimum speed at the end of the first year should be 75 words per minute in dictation and 25 words per minute on the machine; and at the end of the

second year, 100 words per minute in dictation, and 35 words per minute in transcribing notes. Thorough training should also be given in care of the machine, in modern methods of manifolding, and in filing papers.

#### HOME ECONOMICS

*Domestic Science* ( $\frac{1}{2}$ -2).—This should include a study of the elements of domestic science, cooking, foods, nutrition, and dietetics, with laboratory exercises.

*Domestic Art* ( $\frac{1}{2}$ -2).—This should include a study of the elements of domestic art, sewing, textiles, and home furnishing and decoration.

#### MANUAL TRAINING

Owing to the fact that drawing and shop work do not require outside preparation, only half units are allowed; that is, one full credit for two years of work of one period daily, or for one year of work two periods daily.

*Shop Work* ( $\frac{1}{2}$ -2).—A maximum of two units will be allowed for work in joinery, wood-turning, pattern-making, cabinet-making, forge shop, and machine shop.

*Mechanical Drawing* ( $\frac{1}{2}$ -2).—A maximum of two units will be allowed for work in mechanical and machine drawing.

#### AGRICULTURE

*Agriculture* ( $\frac{1}{2}$ -4).—One year in a standard high school based on textbook, laboratory, and field work will be allowed one unit. A maximum of four units will be allowed for work done at any of the district agricultural schools.

### NORMAL TRAINING SUBJECTS

*Psychology* ( $\frac{1}{2}$ ).—One-half unit will be allowed for a course based on some standard text, such as Colvin and Bagley, or Titchener.

*Pedagogy* ( $\frac{1}{2}$ ).—One-half unit will be allowed for a course based on some standard text, such as Seeley's *School Management* or Strayer's *Brief Course in the Teaching Process*.

#### FINE ARTS

*Music* (1-3).—A maximum of three units may be allowed in vocal and instrumental music to those entering the special course in music. One unit is equivalent to two lessons of thirty minutes each per week, with two hours of practice daily for one year.

*Art and Drawing* ( $\frac{1}{2}$ -2).—One unit will be allowed for five hours of work per week for one year.

## LIST OF ACCREDITED HIGH SCHOOLS

## CLASS "A"

*Accredited in fourteen or more units*

Argenta.	Fordyce	Mountain Home
Arkadelphia	Foreman	Nashville
Ashdown	Forrest City	Newport
Atkins	Fort Smith	Osceola
Augusta	Gentry	Paragould
Batesville	Gravette	Pea Ridge
Bentonville	Greenwood	Piggott
Blytheville	Hamburg	Pine Bluff
Booneville	Harrison	Pocahontas
Branch	Hazen	Prescott
Brinkley	Helena	Rector
Cabot	Hope	Rogers
Camden	Hot Springs	Russellville
Carlisle	Imboden	Searcy
Clarendon	Jacksonville	Springdale
Clarksville	Jonesboro	Stamps
Conway	Junction City	Stuttgart
Corning	Lake Village	Texarkana
Cotter	Leslie	Tillar
Crossett	Little Rock	Van Buren
Dardanelle	Lonoke	Waldron
Dermott	Malvern	Walnut Ridge
Dumas	Marianna	Warren
El Dorado	McGehee	West Helena
El Paso	Mena	Wynne
England	Monticello	Warren Training
Eureka Springs	Moro	School
Fayetteville	Morrilton	

*Accredited for entrance to the College of Agriculture.*

First District Agricultural High School, Jonesboro.

Second District Agricultural High School, Russellville.

Third District Agricultural High School, Magnolia.

Fourth District Agricultural High School, Monticello.

## CLASS "B"

*Accredited in eleven to fourteen units.*

Bauxite	Harrisburg	Plummerville
Benton	Hartford	Prairie Grove
Bigelow	Havanna	Rison
Blevins	Holly Grove	Roe
Cane Hill	Huntington	Scotland
Charleston	Lewisville	Siloam Springs
Clinton	Mansfield	Stephens
Columbus	Marvell	Strong
Cotton Plant	McCrary	Sulphur Rock
Damascus	Mount Ida	Sutton
DeVall's Bluff	Mulberry	Waldo
Eudora	Murfreesboro	Washington
Formosa	Okolona	Watson Chapel
Green Forest	Ozark	Wilton
Gurdon	Paris	Yellville
Hardy	Parkdale	

## ADMISSION TO ADVANCED STANDING

Advance standing may be secured either by examination or by transfer of credits from another institution. In order to obtain such standing, application must be made within the first six weeks during which the applicant is in attendance at the University. Studies completed in another college or university will be accepted for advance credit only when certified to by the proper official of that institution. Certificates for this purpose should include a complete record of the courses pursued with the number of weeks and hours per week spent upon each subject.

Graduates of accredited four-year high schools who have completed more than the fourteen units required for entrance, may, with the advice and consent of the head of the department concerned, be granted conditional college credit, in no case to exceed twelve semester hours, for courses pursued in the senior year in high school, provided that such courses are substantially equivalent to the college courses in which college



credit is sought. Such credit does not become a permanent part of the applicant's record until he has successfully completed the first semester of an advanced course in the same subject, assigned to him by the head of the department concerned. Should the applicant fail to pursue such advanced course at his earliest opportunity, or should he fail to make a passing grade for the first semester in which he does pursue such advanced course, his conditional credit is cancelled.

#### ADMISSION AS A SPECIAL STUDENT

A person of mature age and who is not a candidate for a degree may be admitted as a special student under terms prescribed by the individual colleges. Each application must have the endorsement of the professor whose work the applicant desires to take and the approval of the dean of the college or school concerned.

*College of Arts and Sciences.* Applicants for enrollment as special students must be at least twenty years of age, except that in the Department of Fine Arts applicants may be admitted at the age of eighteen.

*College of Engineering.* Applicants for enrollment as special students must be at least eighteen years of age, except that in the trade courses applicants may be admitted at the age of sixteen.

*College of Agriculture.* Applicants for enrollment as special students must be at least eighteen years of age, except that in the short courses applicants may be admitted at the age of sixteen. All applicants must have at least two years of practical farm experience.

Special students are subject to the same regulations as other undergraduate students. They may become candidates for a degree by complying with the necessary regulations. No person will be permitted to register as a special student for more than one year without the permission of the faculty of the college or school concerned.

## FEES AND EXPENSES

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### BENEFICIARY APPOINTMENTS

The state law provides that one thousand students residing within the state may receive beneficiary appointments entitling them to free tuition. These appointments are apportioned to the various counties according to population, and are obtained from the county judge. Those who are unable to obtain appointments from the county judge may receive them from the President of the University until the number of one thousand is reached.

### FEES

All fees must be paid in advance to the Auditor at the beginning of each semester. No student will be allowed to attend classes until his fees are paid.

Matriculation fee (paid by all students, seven dollars at the beginning of each semester) .....	\$14.00
Students Activities fee (paid by all students, three dollars at the beginning of each semester) .....	6.00
Tuition fee (paid by all non-residents of the state and by all others who do not hold beneficiary appointments, five dollars at the beginning of each semester) .....	10.00
Library fee (paid yearly by all students) .....	1.00
Dormitory fee (paid yearly by all students living in the dormitories) -- .....	5.00
Diploma fee (payable at graduation) .....	5.00

A breakage deposit is required of all students pursuing laboratory courses, to cover the material and apparatus used and any breakage or damage. The balance of the deposit, after making the necessary deductions, is refunded to the student at the end of the year.

## SPECIAL FEES IN THE DEPARTMENT OF FINE ARTS

Piano, with Mr. Tovey, per semester .....	\$27.50
Piano with Mr. Tovey, per month.....	7.50
Piano with Assistant per semester .....	22.50
Piano with Assistant per month .....	6.00
Voice, Violin, per semester .....	22.50
Voice, Violin, per month .....	6.00
Organ, per semester.....	27.50
Study of Opera Libretto, per semester.....	3.00
Harmony, in class, per semester.....	5.00
History of Music, in class, per semester.....	5.00
Counterpoint, per semester .....	5.00
Organ practice, per hour.....	.20
Piano practice, one hour daily, per semester.....	2.50
Each additional hour daily, per semester.....	1.25
Recital fee, admitting to at least four artists' recitals (attendance on recitals is required of all students in the department of Fine Arts) .....	3.00
Diploma fee, for completion of the special course in music .....	5.00

A studio fee of \$2 will be charged in all courses in Art except course 5.

## EXPENSES

The following estimates, based upon data secured from students recently in attendance, will give some idea of the cost of attending the University for a year:

Clothes, including uniform .....	\$ 20.00	\$ 40.00	\$ 65.00
Board, laundry, etc. ....	135.00	180.00	225.00
Books, instruments, etc. ....	10.00	15.00	20.00
Other expenses .....	25.00	30.00	35.00
Matriculation and student activities fee..	20.00	20.00	20.00
	-----	-----	-----
	\$210.00	\$285.00	\$365.00

## BOARD AND ROOMS

The men's dormitories provide accommodation for about two hundred fifty students. For rooms, unfurnished, a charge of five dollars per year for each occupant is made. Board, heat, light, and laundry are provided at cost, usually about fifteen dollars per month.

The woman's dormitory provides accommodation for about one hundred students. For rooms, furnished except for linen and towels, a charge of five dollars for each occupant is made.

Reservations for rooms in any of the dormitories should be sent to the Secretary of the University not later than September 1. No reservation will be made unless the dormitory fee of five dollars has been paid.

Lodging may also be secured in private homes near the University at reasonable rates. Boarding places, other than the dormitories, must be selected from a list approved by the University authorities, and may not be changed except by consent of the Dean of Women, in the case of women, or of the President, in the case of men.

## ORGANIZATIONS AND ACTIVITIES.

### CONVOCATION

Convocation exercises for faculty and students are held in the auditorium on the first floor of University Hall at 10 o'clock on Thursday of each week. The programs consist of addresses and lectures by men in public life, discussions of University affairs and problems, and musical numbers. Attendance at convocation exercises is required of all freshmen and sophomores.

### THE CHRISTIAN ASSOCIATIONS

The Christian Associations stand for spiritual, mental, and physical development. Their mission is to befriend and help those who need friends and help, to apply Christian principles to college life, to train for aggressive religious work—in short, to prepare men and women to go out from the University to become religious, as well as business, social and intellectual leaders.

The Young Men's Christian Association holds religious meetings for men on Sunday afternoons and Wednesday evenings. The Young Women's Christian Association holds religious meetings for women on Sundays, Wednesdays and Fridays. A series of special evangelistic meetings is held once each year. Courses in systematic Bible study and in modern missions are offered and are open to all students.

A most helpful feature of the work of the associations is in their interest in new students at the opening of the college year. Students are assisted in securing desirable rooms and boarding places. A bureau of information is conducted for the benefit of all students who need assistance. Each association employs a general secretary who gives full time to the work.

Each year the associations issue a Student's Handbook, which gives information about Fayetteville, the University, and the various college organizations and activities.

The University authorities are in hearty sympathy with the organizations and do everything in their power to aid in their work.

### INTERCOLLEGIATE DEBATE

The University of Arkansas holds annual debates with the Universities of Oklahoma and Texas, each school being rep-



resented by one team on the affirmative side of the question and one team on the negative. The debates are held usually during the second week of April. Each member of the intercollegiate debating teams is awarded an "A" to be worn on a fob or a pin, in recognition of his services, and is allowed three hours credit towards a degree.

#### ATHLETICS

In intercollegiate athletics, the University is represented by teams in football, baseball, basketball, track, wrestling, and tennis. In intramural athletics, a system of inter-class, inter-college, and tournament contests has been developed for the purpose of reaching the average student who finds it impossible to participate in intercollegiate athletics. In this way all students are enabled to get some form of outdoor recreation daily.

The University is a member of the Southwest Intercollegiate Athletic Conference, and as such is governed by the rules of the Conference in all intercollegiate athletic contests. Some of the more important rules of eligibility are:

1. No student shall participate in any intercollegiate contest until one year after the date of his registration in the institution he represents.

2. No person who is not an amateur shall be allowed to represent any member of the Conference in any athletic contest.

3. A student transferring from one institution of collegiate rank to another shall not be eligible to compete in intercollegiate athletics until he has been a student for one year in the institution to which he transfers.

4. No person shall be permitted to participate in intercollegiate athletics who is not a student in good and regular standing, who is not taking at least the minimum amount of work prescribed in the regular course of study in his institution, and who is not making a passing grade in at least two-thirds of the normal amount of work prescribed.

5. No student shall be eligible to compete in intercollegiate athletics, who, during his last semester in attendance, failed to pass two-thirds of the normal work for his course.

All athletic activities are under the immediate supervision of the Director of Athletics.

The Senate Committee on Athletics is charged with the en-

forcement of the rules of eligibility and with supervision of the financial and business management of athletics.

#### ORGANIZATIONS AUXILIARY TO COURSES OF STUDY

*The American Institute of Electrical Engineers, University of Arkansas Branch*, meets regularly on the alternate Tuesdays throughout the school year, for the presentation of original papers and for discussion of the regular Institute transactions of which advance copies are received. All students interested in electrical engineering are eligible to membership.

*The American Society of Mechanical Engineers, University of Arkansas Student Section*, meets regularly on the second and fourth Mondays of the month, during the school year. The meetings are devoted to the presentation of original papers and discussion of papers selected from those regularly presented before the American Society of Mechanical Engineers, of which advance copies are received. Occasionally a lecture by some prominent engineer takes the place of the regular program.

*The Agricultural Society* meets weekly to discuss topics of practical and theoretical interest to students of agriculture and current topics of general interest. Occasional lectures by experts in agriculture take the place of the regular programs.

#### LITERARY SOCIETIES

The *Garland*, *Lee* and *Periclean* societies for men meet Saturday evenings to render programs consisting of prepared and extemporaneous debates, speeches and readings. The *Sapphic* society for women meets on Thursday afternoons.

#### DRAMATIC CLUB

*The Black Friars* meets on alternate Tuesdays for the study of plays classic and current, and for general information in matters pertaining to the drama and to the theatre. Two plays are produced each year. Membership in the society is limited to twenty-five.

#### GLEE CLUB

*The Glee Club* is open to all men students. Membership is determined by competition.

## HONOR SOCIETIES

*Tau Kappa Alpha* is restricted to intercollegiate orators and debaters. The aim of the organization is to encourage and reward all meritorious effort in public speaking.

*Tau Beta Pi* is restricted to engineering students. The object of the organization is to encourage scholarship and to foster liberal culture among engineering students. Eligibility to membership is based upon high scholarship and character.

*Skull and Torch* is restricted to juniors and seniors in the College of Arts and Sciences and the School of Education who are candidates for a degree. Eligibility to membership is based upon high scholarship, participation in student activities, and personal character.

## STUDENT PUBLICATIONS

*The University Weekly* is devoted to current events and matters of interest to the University as a whole.

*The Arkansan* is a literary magazine, published monthly during the school year.

*The Cardinal* is published annually by the junior class. It contains pictures of individuals, classes, and organizations and serves as a history of the school year.

## HONORS, SCHOLARSHIPS, AND PRIZES.

### SCHOLARSHIPS

*Women's Club Scholarships.* The Federation of Women's Clubs of Arkansas offers two annual scholarships, one for men and one for women. Appointment to the scholarships is determined by competitive examinations held in June of each year by the county examiner or county superintendent under the direction of University authorities. Candidates must stand examination in fourteen units of high school work including those units prescribed for entrance to the University. Persons who wish to take the examinations should notify the President of the University before May 1st so that examinations in the desired subjects may be forwarded to the examiner or superintendent in good season. The scholarships pay one hundred forty and one hundred forty-five dollars, respectively.

*Daughters of the Confederacy Scholarship.* The Daughters of the Confederacy of Arkansas have provided one scholarship.

*Elks' Scholarship.* The Benevolent and Protective Order of Elks have provided a scholarship to be awarded by the Federation of Women's Clubs. Correspondence should be addressed to Mrs. Edwin Bevins, Helena, Arkansas.

*University Scholarships.* The Board of Trustees has provided one scholarship annually for each fully accredited public high school within the state. These scholarships are open only to that member of each graduating class who has made the highest average in the classes for his entire high school course. These scholarships grant exemption from the payment of matriculation, student activities, and library fees.

### HONORS

By a system of departmental, class, and graduation honors, the University gives official recognition of attainments in scholarship.

*Departmental Honors.* To be eligible for departmental honors a student must pass in at least nine credits in the department with a grade of E. From the students who are eligible for honors in a department, the teaching force of the depart-

ment shall select the first and second. As a basis for this selection, all of the work done in the department shall be considered and general class standing if necessary.

*Class Honors.* Any student who passes in at least fifteen hours of collegiate work and receives a grade of E in not less than twelve hours and ranks not less than F in any course shall receive *class honors*.

*Honors at Graduation.* Any student who makes class honors in both his junior and senior years shall be termed an *Honor Graduate*.

All honors shall be published at commencement, and in the catalog for the following year.

All students who are honor graduates shall have the fact noted in their diplomas.

#### PRIZES

*The William Jennings Bryan Prize.* Hon. William Jennings Bryan has given to the University the sum of two hundred fifty dollars, the interest on which is offered annually as a prize for the best essay on some topic relating to the problems of government. The contest is open to juniors and seniors. Further information may be obtained from the professor of economics and sociology.

*The Troy W. and Jessie Lewis Economic Essay Prize.* Mr. Troy W. Lewis, of Little Rock, offers annually a prize of ten dollars to the member of the senior class who writes and submits the best essay on some economic subject.

*The Chi Omega Prize.* The Chi Omega sorority offers at each institution at which it has a chapter an annual prize of fifteen dollars for the best essay on some topic connected with the study of sociology. The contest is open to all women of the University who are pursuing courses in economics or sociology.

*The Brough Debating Medal.* Dr. Charles Hillman Brough, formerly head of the department of economics and sociology at the University, offers a medal of the value of twenty dollars or a cash prize of twenty dollars for excellence in debate, to be contested for by two representatives of each of the literary societies. Under the conditions of the award, two debates must be held during the year, one formal, in which the speeches are



prepared, valued at sixty per cent, and one informal, in which the speeches are extemporaneous, valued at forty per cent. These debates are designed to train students in the art of forensic speaking and to promote a friendly rivalry between the literary societies.

*Arkansas Engineering Society Prize.* The Arkansas Engineering Society offers a prize not to exceed twenty-five dollars for the best thesis submitted by a member of the senior class in the College of Engineering.

## RULES AND REGULATIONS.

Each student at the time of registration is given a copy of the rules and regulations for undergraduate students for the observance of which he will be held strictly responsible.

### DISCIPLINE

Students are required to be diligent in the pursual of their studies and regular in their attendance at classes. Those who fail to meet these requirements will be requested to withdraw.

### REGISTRATION

Students must matriculate and classify if possible during the first three days of the session. Failure to do so may be cause for discipline.

### STUDENTS' WORK

A student in his first semester at the University, unless he is registered in a class higher than the freshman, shall not be permitted to carry a greater number of hours than the normal number required in his course, provided that the dean of the college or school concerned may at his discretion allow such a student to carry one hour more than the maximum prescribed. Students who have done work of an exceptionally high grade in the high school may be exempted from the operation of this rule by permission of the dean of the college or school concerned.

A freshman student who enters conditionally shall not be allowed to carry more than the normal number of hours required in his course. In computing this there shall be reckoned the work that he is doing to make up entrance conditions.

A student who has failed in any subject (not including physical education and military science and tactics) in any semester shall not be allowed the next following semester to carry more than the normal number of hours required in his course.

The dean of the college or school in which a student is enrolled may at his discretion limit the number of hours that student shall be allowed to carry.

A student may enroll in two classes where a conflict occurs only by permission of the dean of the college or school and of the heads of the departments concerned. In no such case shall

a student be allowed to lose more than one-third of the time devoted to recitation in either class.

#### RESIDENCE

In addition to completing the prescribed course of study candidates for a degree are required to do at least the work of the senior year in residence.

## COLLEGE OF ARTS AND SCIENCES

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The object of the courses offered in the College of Arts and Sciences is to cover the broad field of general university study, including ancient and modern languages and literature, history and the social sciences, mathematics, the natural sciences, and the fine arts. It aims to afford the student an opportunity to gain a broad, cultural education, as well as to equip himself for further study in more technical fields.

### ADMISSION

For a detailed statement of the entrance requirements and a description of the subject accepted for entrance see page 21.

### COURSES OF STUDY

The College of Arts and Sciences offers four-year courses leading to the degrees of *Bachelor of Arts* (B. A.) and *Bachelor of Science in Chemistry* (B. S. C.); a graduate course leading to the degree of *Master of Arts*; and special courses in music leading to a certificate.

### REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS.

The candidate must meet the residence and registration requirements and must secure credit in one hundred thirty semester hours in approved courses, to be chosen under the following conditions:

1. Ten hours prescribed as follows: English 1, six hours; Military Science and Tactics, four hours (for men), or Physical Education, four hours (for women).

2. One hundred twenty hours elective from the following groups:

Group 1: English, French, German, Greek, Italian, Latin, and Spanish.

Group 2: Astronomy, Biology, Chemistry, Geology, Mathematics, and Physics.

Group 3: Economics, Education, History, Philosophy, Political Science, and Sociology.

Group 4: Agriculture, Engineering, Fine Arts, Home Economics, Law, and Medicine.

a. The candidate may not elect more than forty hours in any one subject, and not more than eighty hours from any one group. At least eighteen hours must be elected from each of groups 1, 2 and 3, and not more than eighteen may be elected from group 4.

b. The candidate must select, not earlier than the beginning of his sophomore year and not later than the beginning of his junior year, one major subject, to be chosen from group 1, 2 or 3, in which he must complete not less than thirty hours, and two minor subjects, in which he must complete not less than eighteen and twelve hours respectively, subject to the approval of the candidate's major professor and the dean of the college. A description of the major requirements of each department will be found under the departmental statements.

c. The candidate will be required to complete, in the combined high school and college courses, at least twenty hours of one foreign language, at least six hours of which must be taken in college classes. In computing the total, each unit of high school work shall count as equivalent to four hours of college work. The student shall continue his language study until this requirement is satisfied, which in the case of a modern language means a satisfactory working knowledge of that language.

d. No course in which a fee is paid by the student to the instructor may be counted towards a degree.

#### FRESHMAN YEAR

The normal course of the freshman year is thirty-two hours, distributed as follows: English 1, six hours; foreign language, six or eight hours; Military Science and Tactics, two hours (for men), or Physical Education, two hours (for women); electives, sixteen or eighteen hours, chosen from the following subjects unrestrictedly open to freshmen; Biology 1, 2, or 5; Chemistry 1 and 1a; Education 1a and 2ob; French 1; Geology 1; German 1; Greek 1 or 7; History 1 or 2; Italian 1; Latin A or 1; Mathematics 1, 2, or 3; Physics 1 or 5; Spanish 1.



## SOPHOMORE YEAR

The normal course of the sophomore year is thirty-two hours, distributed as follows: Military Science and Tactics, two hours (for men), or Physical Education, two hours (for women); foreign language, six hours of the language chosen in the freshman year unless the language requirement has already been met; group 2, six hours; group 3, six hours; electives, twelve or eighteen hours.

## JUNIOR AND SENIOR YEARS

The normal course of the junior and senior years is thirty-four hours each, all of which is elective.

### REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN CHEMISTRY.

The candidate must comply with the residence and registration requirements and must complete satisfactorily the following course:

*Freshman Year*

First Semester	Credit Hours	Second Semester	Credit Hours
English 1 .....	3	English 1 .....	3
Mathematics 3 .....	4	Mathematics 3 .....	4
Chemistry 1 and 11 .....	3	Chemistry 1 and 11 .....	3
Physics 1 .....	3	Physics 1 .....	3
German 1 .....	3	German 1 .....	3
Military Science and Tactics .....	1	Military Science and Tactics .....	1

*Sophomore Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Chemistry 2 .....	3	Chemistry 2 .....	3
Chemistry 5a .....	3	Chemistry 6b .....	3
Physics 2 and 3 .....	4	Physics 2 and 3 .....	4
French 1 .....	3	French 1 .....	3
Military Science and Tactics .....	1	Military Science and Tactics .....	1
Elective .....	3	Elective .....	3

Electives to be selected from: Chemistry 3 and 31; English 2 or 13; German 2; Economics 1; Geology 1; Biology 1; Mathematics 5; Mechanical Engineering 2, 3, 4, 5, or 10.

*Junior Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Chemistry 3 or 4 .....	3	Chemistry 3 or 4 .....	3
Chemistry 7 .....	3	Chemistry 7 .....	3
Chemistry 11 .....	2	Chemistry 11 .....	2
Elective .....	8	Chemistry 15b .....	2
		Elective .....	6

Electives to be selected from: Chemistry 3l or 4l; Mathematics 7 or 8; Geology 5; Biology 4; Physics 7b.

*Senior Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Chemistry 8 .....	3	Chemistry 8 .....	3
Chemistry 15a .....	2	Chemistry 14b .....	2
Chemistry 19 .....	1	Chemistry 19 .....	1
Chemistry 18 .....	1	Chemistry 18 .....	1
Elective ....	9	Elective ....	9

Electives to be selected from: Chemistry 4, 4l, 9a, 9b, 10a, 10b, 12a, 16a, 16b; 17b, 18; Physics 4, 9a; Biology 7, 8; Geology 5b, 6a; Mathematics 20; English 4a; History 4; Economics 2. Electives other than those indicated may be chosen only by consent of the student's advisor and the dean of the college.

## REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS.

The degree of Master of Arts is granted for graduate work based upon an undergraduate course of four years with the degree of Bachelor of Arts completed at this university or another college or university of equal standing. Before a student may become a candidate for the degree, however, his petition for admission to graduate standing must have the approval of the Senate Committee on Graduate Study and the dean of the college.

1. The minimum time in which a candidate may be permitted to complete the degree is one academic year. In individual cases where the committee deems it necessary more than one year may be required.

2. The candidate is required to complete one major subject and not more than two minor subjects in closely related courses. The major subject, occupying with the thesis sixteen credit hours, must be one in which the candidate has received credit in his undergraduate course for at least twenty-four credit hours. The minor subjects, occupying together twelve credit hours, must be ones in which he has received credit in his under-

graduate course for at least twelve credit hours each. The choice of the candidate's major and minors is subject to the approval of the committee, the dean of the college, and the major professor.

3. Twenty-eight of the thirty-two hours required of the candidate must be regular class-room work. Candidates who are graduates of this university may pursue one-half of the required work by correspondence, provided that their undergraduate records are satisfactory to the committee and to the dean of the college.

4. A student may be admitted to graduate standing without becoming a candidate for a degree by permission of the committee and the dean of the college.

### *SPECIAL COURSES IN THE DEPARTMENT OF FINE ARTS*

The Department of Fine Arts offers special courses the completion of which is attested by a diploma or a certificate. The purpose of these courses is to give opportunity to persons who do not desire to become candidates for a degree, but wish to do special work in music, art, or expression, together with a small amount of work in courses of a general cultural nature, in preparation for teaching or as a basis for further study.

The requirements for a diploma in music from the Department of Fine Arts are:

English 1 and 2, twelve hours; French, German, or Spanish, twelve hours; History 1 or Economics 1, six hours.

Music courses 1, 2, 3, 4 and 5.

In instrumental and vocal music no definite number of hours can be stated; the applicant must show the attainment of sufficient knowledge, technique, and ability before a diploma will be granted. In general this will require from four to six years of study. In addition to the study of the major instrument, the candidate will be required to spend at least one year in the study of some other instrument or of voice, subject to the approval of the Director.

A certificate in piano or in voice is granted to students who complete music courses 1, 2, 3, 4, and 5 and attain sufficient knowledge, technique, and ability in piano or in voice to satisfy the requirements.

## BUILDINGS AND EQUIPMENT

*University Hall*, erected in 1872, is the "old main building" of the University. It is five stories in height, forming three sides of a quadrangle. It contains about seventy rooms occupied by the offices of administration and the class-rooms and laboratories of the College of Arts and Sciences.

The *biological laboratory* is situated on the second floor of University Hall and has accommodation for about forty students. The laboratory is furnished with work-tables, a sink, and the necessary gas fixtures for incubators, sterilizers, etc.; also with an aquarium for keeping aquatic animals and plants for observation and study. The equipment in apparatus consists of compound microscopes, dissecting microscopes, microtomes, and such other apparatus and chemicals as are needed for the practical work in biology. There is also apparatus for collecting, drying, preserving, and mounting insects. The laboratory has a number of skeletons of animals, and models and charts for teaching plant and animal anatomy.

The *geological laboratory* occupies the fourth floor of University Hall. The department is equipped with maps, relief maps, minerals, and rock specimens; and with aneroid barometers, compasses, hand-levels, pedometers, etc., for field work. There is also a well equipped laboratory for determinative mineralogy.

The *museum* is located on the fourth floor of University Hall. The contents have been collected with the view of facilitating instruction in geology and biology. That portion of the collection suitable for display is arranged in glass cases, while the working collection is in drawers.

*Relief maps* have been placed in the museum for the following regions: geological relief maps of Arkansas, Colorado Canyon, central Tennessee, and the United States; a convex relief map of the United States on a section of a globe sixteen feet in diameter, relief maps of Carmel Bay, California, Ice Springs Crater, Utah, Yosemite Valley, Palestine, Mount Vesuvius, and San Francisco; and a sectional geological relief map of the Leadville region in Colorado.

The *mineral collection* contains about three thousand specimens, representing different mineral groups.

The *petrographic collection* consists of a large number of specimens representing sedimentary, igneous, and metamorphic rocks, with a large collection of stone from different parts of the country.

The *paleontological collection* contains a large number of invertebrate fossils representing principally the fauna of the different geological horizons in northern Arkansas.

The *Major Earle Collection* of minerals and fossils was placed in the museum by Major F. R. Earle.

The *zoological and botanical collections* consist of two hundred birds and mammals, representing eighty species; two hundred reptiles and amphibians, representing forty species; fifteen hundred fishes, representing three hundred fifty species; one thousand insects and other invertebrates, representing two hundred species; and several skeletons.

The *physical laboratory* is located in Engineering Hall. It is equipped with modern instruments in quantity sufficient for the laboratory work of the courses in physics.

The *Chemistry Building*, erected in 1905, is situated north of University Hall. It is two stories high and sixty by ninety feet. On the first floor are laboratories for quantitative and qualitative analysis, organic chemistry, and physical chemistry, a balance-room, and a library. On the second floor is a large lecture room and a general laboratory for first year students. In the basement are store-rooms and a laboratory for assaying. All of the laboratories are provided with work-tables, sinks, hoods, water, and gas.

The *Armory* is a large, well-lighted room, sixty by eighty feet, occupying the entire basement of the north wing of University Hall. It is substantially furnished with arm racks, compartments for equipment, and other conveniences. The equipment consists of six hundred Krag-Jorgensen rifles; eighteen gallery rifles, 1903 Springfield model; five hundred sets of leather infantry equipment; signal flags; non-commissioned officers' swords; and ammunition furnished by the national government. National colors, cadet officers' swords, and a set of band instruments have been purchased by the University.

The *practice rooms* of the Department of Music are located on the fourth floor of the north wing of University Hall.



## DEPARTMENTAL STATEMENTS

### SYMBOLS

The suffix *a* after the numeral indicates first semester courses; the suffix *b*, second semester courses. A repetition of the two (e. g. 7a, 7b) indicates courses offered either semester. A combination of the two (e. g. 7ab) indicates year courses in which credit will be allowed for one semester's work; in courses not so indicated, the second semester must be completed before credit will be allowed for the first semester.

The suffix *l* indicates laboratory courses; the suffix *c*, language composition courses.

Courses indicated by a star (\*) may be elected by graduate students for credit towards an advanced degree.

### CREDIT HOURS

The number of semester credit hours allowed in each course is identical with the number of hours per week spent upon that course, except that in laboratory, shop, or field work two to three hours will be considered equivalent to one hour of lecture or recitation. In elementary courses in foreign language or science, the class will be required to meet five hours per week for four hours credit, the ground covered being substantially equivalent to that usually covered in a four hour course.

## ANCIENT LANGUAGES

PROFESSOR STRAUSS, DR. HANCOCK

*Requirements for a Major in Latin or Greek*, thirty credit hours. Students who expect to teach Latin in the secondary schools must complete course 2 and at least six hours of more advanced work.

### COURSES

Latin			
No.	Title	Credits	Prerequisites
A	Cicero's Speeches and Letters.....	8	†
1	Vergil's Aeneid .....	8	†
2	Cicero and Livy.....	8	†
2	Roman Public and Private Life.....	6	2
3c	Prose Composition .....	2	2
4	Horace and Tacitus.....	6	2
*5	Roman Poetry .....	6	3 or 4
*6	Horace and Vergil.....	4	3 or 4

## Greek

1a	Elementary Greek .....	4	None
2b	Xenophon .....	4	1a
3a	Homer .....	3	2b
4b	Plato .....	3	3a
5	Greek Historians .....	4	3a, 4b
*6	The Attic Drama .....	6	3a, 4b
7	Advanced Prose Composition .....	2	†
8ab	Greek Literature in Translation .....	6	†

†See statement.

\*See page 54.

## LATIN

A. CICERO'S SPEECHES AND LETTERS.—Six speeches and selections from the letters; a review of forms and syntax; introduction to the use of good English in translation. Designed for students who offer only two units in Latin for entrance. Five hours per week. M. W. Th. F. 1 Tu. 2.

DR. HANCOCK.

1. VERGIL'S ÆNEID.—Due attention will be given to forms, syntax, and prosody, but the chief aim of this course will be to enable the student to arrive at an appreciation of the poem as literature. Designed for students who offer three units in Latin for entrance. Five hours per week. M. Tu. W. Th. F. 2.

DR. HANCOCK.

2. CICERO AND LIVY.—Cicero's *De Amicitia* and selections from Livy; a thorough review of forms and syntax at the beginning of the course and by means of prose composition one hour per week. Emphasis is laid on the art of translation. Five hours per week. M. Tu. W. Th. F. 3, 6.

PROFESSOR STRAUSS.

DR. HANCOCK.

3. ROMAN PUBLIC AND PRIVATE LIFE.—Selections from Cicero, Pliny, Juvenal, and Martial. Three hours per week. M. W. F. 4.

PROFESSOR STRAUSS.

3c. PROSE COMPOSITION.—The translation of connected passages of idiomatic English into idiomatic Latin. One hour per week. W. 4.

PROFESSOR STRAUSS.

4. HORACE AND TACITUS.—Horace, *Odes and Epodes*; Tacitus, *Annals*; parallel and sight reading; a study of the metres of Horace. Three hours per week. Tu. Th. 4 W. 2.

PROFESSOR STRAUSS.

5. ROMAN POETRY.—Reading of selected portions of Roman poets. An attempt will be made to secure for the student a good general view of the whole field of Roman poetry within the limits stated. Three hours per week.

PROFESSOR STRAUSS.

6. HORACE AND VERGIL.—Horace, *Satires and Epistles*; Vergil, *Eclogues and Georgics*; history of Roman literature. Two hours per week.

PROFESSOR STRAUSS.

#### GREEK

1a. ELEMENTARY GREEK.—Assuming on the part of the student a fair knowledge of Latin grammar, the essentials of Greek form and syntax are given rapidly, with much illustrative reading and comparatively little drill. Designed for students who offer no Greek for entrance and who wish to begin a study of the language. Five hours per week. M. Tu. W. Th. F. 4.

DR. HANCOCK.

2b. XENOPHON.—Selections from *Anabasis*, *Cyropedia*, and *Memorabilia*; practical review of syntax; some prose composition and sight reading. Five hours per week. M. Tu. W. Th. F. 4.

DR. HANCOCK.

3a. HOMER.—Selections from the *Iliad*. Syntax, prosody, and dialect will be taught as incidental to the literary qualities of the poem. An outline of Greek literature. Three hours per week.

PROFESSOR STRAUSS.

4b. PLATO.—The *Apology* and *Crito*; prose composition and sight reading. Three hours per week.

PROFESSOR STRAUSS.

5. GREEK HISTORIANS.—Selections from Herodotus and Thucydides. Two hours per week.

DR. HANCOCK.

6. THE ATTIC DRAMA.—Selected plays of the four great Greek dramatists. Three hours per week.

DR. HANCOCK.

7. ADVANCED PROSE COMPOSITION.—Designed to accompany courses 5 and 6. One hour per week.

DR. HANCOCK.

8ab. GREEK LITERATURE IN TRANSLATION.—The aim of this course is to give students of any literature a knowledge of the

form and content of the literature that has influenced most widely all others. In the first semester, epic and lyric poetry will be studied; in the second semester, prose and drama. Lectures, class reading, collateral reading, and frequent examinations. Not open to freshmen. Three hours per week. M. Th. 5 Tu. 7.

DR. HANCOCK.

## BIOLOGY

PROFESSOR PICKEL

The courses in biology have been arranged to meet the needs of three classes of students, namely: those who desire to become acquainted with the fundamental principles of plant and animal life; those who intend to study medicine; and those who wish to go more thoroughly into the study of biological science to obtain the technical training necessary for subsequent investigation or for teaching.

*Requirements for a Major in Biology*, thirty credit hours, to include courses 1 or 2 and either 3a, 3b, 4, 5a, 5b, 6, and 7, or 8, 9, and 11a or 11b. Students preparing for the study of medicine are advised to elect courses 1 or 5, 4, 6, 7, and 8 or 9. Students who expect to teach botany in the secondary schools should complete at least courses 2, 3a, 3b, 8, and 11a; students who expect to teach zoology in the secondary schools should complete courses 1 and 5. In addition to these requirements, students who expect to become grade school teachers should be equipped with courses 9 and 11a.

### COURSES

No.	Title	Credits	Prerequisites
1	General Biology .....	8	None
2	General Botany .....	8	None
*3a	Plant Morphology .....	3	1 or 2
*3b	Plant Physiology .....	3	1 or 2
4	Bacteriology .....	8	1, Chem. 1
5a	Invertebrate Zoology .....	4	None
5b	Vertebrate Zoology .....	4	None
*6	Comparative Anatomy of Vertebrates .....	6	1 or 5a and 5b
*7	Animal Histology and Embryology.....	10	1 or 2
8	Physiology .....	8	†
9	Physiological Chemistry .....	8	8, Chem. 1
10	Nature Study .....	2	1
11a	General Hygiene .....	3	None
11b	Theoretical Biology .....	3	†
12a	Teaching Biology .....	3	1, 2, 5, 8

†See statement.

\*See page 54.

1. GENERAL BIOLOGY.—An introduction to the whole field of biological science, with emphasis on the dynamic aspect of things. Lectures and recitations on the structure, functions, behavior, and life history of organisms from the plant and animal kingdoms, two hours per week. Laboratory work on selected types, four hours per week. Tu. Th. 2 Tu. Th. 6-7.

PROFESSOR PICKEL.

2. GENERAL BOTANY.—A general survey of the entire plant kingdom, with due emphasis on the application of botany to agriculture and horticulture. Lectures and recitations on plant physiology and the morphological characteristics of the larger groups, two hours per week. Laboratory work on suitable types, four hours per week. W. F. 2 M. W. 6-7.

PROFESSOR PICKEL.

3a. PLANT MORPHOLOGY.—The structure and life histories of representative plants from the main groups. Lectures and recitations one hour, laboratory work four hours per week.

PROFESSOR PICKEL.

3b. PLANT PHYSIOLOGY.—The fundamental physiological processes of plants. Lectures and recitations one hour, laboratory work four hours per week. F. 4 Tu. Th. 5-6.

PROFESSOR PICKEL.

4. BACTERIOLOGY.—A study of the preparation of nutrient media, the characteristics of bacteria, types and effects of bacteria, isolating and preserving pure cultures, microscopical preparations, bacteria of the soil, the water, and the air, pathogenic forms and their relation to disease. Lectures and recitations one hour, laboratory work six hours per week. M. 1 Tu. W. F. 2-3.

PROFESSOR PICKEL.

5ab. INVERTEBRATE AND VERTEBRATE ZOOLOGY.—A general course treating of the fundamental facts of zoological science and the laws of development, heredity, variation, and correlation. Field work on the local fauna. Lectures and recitations two hours, laboratory and field work four hours per week.

PROFESSOR PICKEL.

6. COMPARATIVE ANATOMY OF VERTEBRATES.—A study of the comparative anatomy of acrania, cyclostomes, sharks, fishes, amphibians, reptiles, birds, and mammals. Recitations, demon-



strations, and lectures one hour, laboratory work on selected types four hours per week. M. 2 W. F. 1-2.

PROFESSOR PICKEL.

7. ANIMAL HISTOLOGY AND EMBRYOLOGY.—Instruction in histological and embryological methods of technique. Designed for students who expect to study medicine. Lectures and recitations two hours, laboratory work six hours per week.

PROFESSOR PICKEL.

8. PHYSIOLOGY.—Designed for students who desire a general knowledge of the physiology and hygiene of the human body. Recommended to all students who expect to teach. Some knowledge of elementary physiology will be required of all students who register for this course. Lectures and recitations two hours, laboratory work four hours per week. M. W. 2-3 Tu. Th. 1.

PROFESSOR PICKEL.

9. PHYSIOLOGICAL CHEMISTRY.—The physiology of foods, digestion, and nutrition; blood circulation and respiratory mechanism; the excretions and urine analysis; functions of the brain and spinal cord; the nerves and the muscles. Lectures and recitations two hours, laboratory work four hours per week. M. F. 2 Tu. Th. 2-3.

PROFESSOR PICKEL.

10. NATURE STUDY.—A course in nature study and systematic science. Designed for prospective teachers. Lectures two hours per week.

PROFESSOR PICKEL.

11a. GENERAL HYGIENE.—Personal and public hygiene considered from a general rather than a technical standpoint. Open to juniors and seniors. Lectures and assigned readings three hours per week.

PROFESSOR PICKEL.

11b. THEORETICAL BIOLOGY.—A consideration of variation, selection, evolution, heredity, and eugenics. Lectures and recitations on some of the broader and more general problems in biology, including a consideration of the application of biological facts and principles to the solution of social problems. Open to juniors and seniors and to all sophomores who have six hours credit in biology. Three hours per week. M. Tu. W. 2.

PROFESSOR PICKEL.

12a. TEACHING BIOLOGY.—A study of the selection of courses, methods of instruction, collecting and preserving laboratory material, laboratory equipment and management, and a comparison of text-books. Lectures and recitations three hours per week. Designed for prospective high school teachers.

PROFESSOR PICKEL.

## CHEMISTRY

\*PROFESSOR CARROLL, ASSOCIATE PROFESSOR MORROW

*Requirements for a Major in Chemistry.* thirty credit hours. The character of the courses required will depend upon the student's purpose. For students who are preparing to teach chemistry in high school, courses 1, 1l, 2, 2l, 3a, 3l, 6a, 1l, and 11l are required, and 12a and 15 are recommended, in addition to which the student will be expected to complete certain courses in physics, mathematics, and education (see page 105). For students who are preparing for the study of medicine, courses 1, 1l, 2, 2l, 3a, 3l, 5a, 6a, 1l, and 11l are recommended, to be accompanied by courses in biology, physics, and modern languages. For students who are preparing for graduate study in chemistry, courses 1, 1l, 2, 2l, 3a, 3l, 4, 4l, 5a, 6a, 1l, 11l, and 15a are prescribed, to be supported by a considerable amount of work in physics, mathematics, and modern languages.

The Department of Chemistry offers a special course leading to the degree of Bachelor of Science in Chemistry (see page 49), which may be pursued as a preparation for professional work in chemistry, or as a basis for graduate study in chemistry or medicine.

### COURSES

No.	Title	Credits	Prerequisites
1	Elementary Chemistry.....	4 or 6	Prep. Physics
1l	Elementary Laboratory .....	2	†
2	General Inorganic Chemistry .	6	1
2l	General Inorganic Laboratory ..	2	†
3a, 3b	Elementary Organic Chemistry ..	3	1
3l	Elementary Organic Laboratory ..	2	†
4	Advanced Organic Chemistry .	6	1, 3a or 3b
4l	Advanced Organic Laboratory ..	2	3l
5a, 5b	Qualitative Analysis.....	3	1
6a, 6b	Quantitative Analysis.....	3	5a or 5b
7a, 7b	Quantitative Analysis.....	3	6a or 6b

\*Died, February 22, 1916.

8a, 8b	Quantitative Analysis.....	2	5a or 6b
9a, 9b	Water Analysis .....	3	6a or 6b
10a, 10b	Electro-Chemical Analysis .....	2	7a or 7b
11	Physical Chemistry .....	4	2, 3, Physics 1, Math. 1ab
111	Physical Chemistry Laboratory.....	2	†
12a	Teachers' Course.....	3	1, 2, 3a, 5a, 6a, 11
13b	Electro-Chemistry .....	3	11
14b	History of Chemistry.....	2	1, 2, 3a, 4, 11
15a, 15b	Chemical Colloquium .....	2	2, 3, German 1, 2, French 1
16a, 16b	Spectral Analysis .....	3	1, 2, 4, 11
17b	Industrial Chemistry.....	3	1, 2, 4, 11
18	Research Work .....	4-6	†
19	Journal Meeting .....	1	1, 2, 4, 5a, 6a
20b	Household Chemistry .....	4	1

†See statement.

1. **ELEMENTARY CHEMISTRY.**—A general course in elementary chemistry. Lectures, text-book, and recitations. Section A, two hours per week, *required of students in the courses in agriculture and engineering*. Section B, three hours per week, *required of students in the course in home economics*. Section C, four hours per week, *elective for students in the College of Arts and Sciences or the School of Education*. Sections A and B must be accompanied by course 11.

ASSOCIATE PROFESSOR MORROW.

11. **ELEMENTARY CHEMISTRY LABORATORY.**—Laboratory work three hours per week. Designed to accompany course 1.

ASSOCIATE PROFESSOR MORROW.

2. **GENERAL INORGANIC CHEMISTRY.**—Lectures and recitations three hours per week. Students may elect one additional hour for credit.

PROFESSOR CARROLL.

21. **GENERAL INORGANIC LABORATORY.**—Laboratory work three hours per week. Designed to accompany course 2.

ASSOCIATE PROFESSOR MORROW.

3a, 3b. **ELEMENTARY ORGANIC CHEMISTRY.**—An introduction to the study of carbon compounds. Lectures and recitations three hours per week.

ASSOCIATE PROFESSOR MORROW.

3l. ELEMENTARY ORGANIC LABORATORY.—Laboratory work three hours per week. Designed to accompany course 3a or 3b.

ASSOCIATE PROFESSOR MORROW.

4. ADVANCED ORGANIC CHEMISTRY.—Lectures and recitations three hours per week.

ASSOCIATE PROFESSOR MORROW.

4l. ADVANCED ORGANIC LABORATORY.—Laboratory exercises in the preparation of typical and important organic compounds three hours per week. Must be preceded or accompanied by course 4.

ASSOCIATE PROFESSOR MORROW.

5a, 5b. QUALITATIVE ANALYSIS.—A study of the usual methods of separating and detecting the various metals and acids. Lecture and recitation one hour, laboratory work six hours per week.

PROFESSOR CARROLL.

6a, 6b. QUANTITATIVE ANALYSIS.—Exercises in the simpler methods of quantitatively determining the metals and acids. Laboratory work nine hours per week.

PROFESSOR CARROLL.

7a, 7b. QUANTITATIVE ANALYSIS.—Exercises in the more complicated gravimetric and volumetric processes of analysis. Laboratory work nine hours per week.

PROFESSOR CARROLL.

8a, 8b. QUANTITATIVE ANALYSIS.—A continuation of the preceding course. The work required will be varied to suit the needs of the students. Laboratory work nine hours per week.

PROFESSOR CARROLL.

9a, 9b. WATER ANALYSIS.—A course in the methods of sanitary and technical water analysis, primarily for engineering students. The discussion and interpretation of the results of the various analyses will be illustrated in occasional lectures and conferences.

PROFESSOR CARROLL.

10a, 10b. ELECTRO-CHEMICAL ANALYSIS.—Quantitative analysis by electrolysis. Laboratory exercises nine hours per week with occasional lectures.

PROFESSOR CARROLL.

11. PHYSICAL CHEMISTRY.—Lectures two hours per week.

PROFESSOR CARROLL.

11l. PHYSICAL CHEMISTRY LABORATORY.—Designed to accompany course 11. Laboratory work three hours per week.

PROFESSOR CARROLL.

12a. TEACHERS' COURSE.—Lectures and conferences two hours and practice three hours per week. Designed for prospective high school teachers. (*Not offered in 1916-17.*)

13b. ELECTRO-CHEMISTRY.—Elementary theoretical and applied electro-chemistry. Lecture one hour and laboratory work six hours per week.

PROFESSOR CARROLL.

14b. HISTORY OF CHEMISTRY.—Lectures, assigned readings, and reports, two hours per week.

PROFESSOR CARROLL.

15a, 15b. CHEMICAL COLLOQUIUM.—Readings and discussions, two hours per week. Articles in German and French chemical journals are the basis of the work.

PROFESSOR CARROLL.

16a, 16b. QUALITATIVE AND QUANTITATIVE SPECTRAL ANALYSIS.—Lecture one hour and laboratory exercises in spectral analysis and colorimetry six hours per week. (*Not offered in 1916-17.*)

17b. INDUSTRIAL CHEMISTRY.—Lectures, recitations, assigned readings, and reports, three hours per week.

ASSOCIATE PROFESSOR MORROW.

18. RESEARCH WORK.—Problems in research will be given to graduate students and to others competent to undertake such work. A reading knowledge of German and French is indispensable.

PROFESSOR CARROLL.

19. JOURNAL MEETINGS.—The instructors and advanced students of the department meet twice a month for discussion of articles in current chemical journals.

20b. HOUSEHOLD CHEMISTRY.—A study of the chemistry of foods and other household materials. Lectures and recitations three hours and laboratory work three hours per week.

ASSOCIATE PROFESSOR MORROW.



## ECONOMICS AND SOCIOLOGY

## PROFESSOR NOURSE, MR. WATERMAN

The courses offered in this department are designed to give instruction in the fundamentals of economic theory and in problems of current economic, social, and public interest, aiming to prepare its students for the duties of citizenship and for business and professional careers.

*Requirements for a Major in Economics*, thirty credit hours, including courses 1, 5a, and 5b.

Students preparing to teach economics in secondary schools should take courses 1, 5a, and 5b, and should elect at least twelve hours more from the courses offered. For this purpose courses 7 or 12 are recommended, but others may be chosen with the consent of the head of the department. If possible, the student is strongly advised to do one-half year of teaching in commercial geography in the Training High School.

## COURSES

No.	Title	Credits	Prerequisites
1	Elementary Economics .....	6	None
2	Business Law .....	6	None
3a	Railway Transportation .....	3	1
3b	Trade Unionism and Labor Problems .....	3	1
4a	Socialism .....	2	1
4b	Insurance .....	2	1
5a	Economic History of the United States.....	3	1
5b	Current Economic Problems .....	3	1, 5a
7	Elementary Sociology and Social Problems.....	6	None
10a	Theory and Practice of Banking .....	3	1
11a	Corporation Finance .....	3	1
11b	The Trust Problem.....	3	1
12	Agricultural Economics .....	6	None
13a	Money, Credit, and Prices .....	3	1
13b	Public Finance .....	3	1

Note.—Freshmen will not be admitted to any of the courses in economics except by special permission of the head of the department.

1. ELEMENTARY ECONOMICS.—An introductory survey of the fundamental principles of economics. The work is developed through class-room discussions and written problems, the student's experience being supplemented by a moderate amount of

collateral reading. Three hours per week. M. W. F. 1, 4; Tu. W. Th. 6.

PROFESSOR NOURSE.  
MR. WATERMAN.

2. BUSINESS LAW.—A brief examination of those phases of law which particularly concern the business man, such as contracts, agency, partnerships and corporations, common carriers, transfer of real and personal property. Lectures and recitations three hours per week. Tu. W. Th. 1.

MR. WATERMAN.

3a. RAILWAY TRANSPORTATION.—The nature of railway competition, combinations, rate-making, relations with state and federal government, the Inter-State Commerce Commission; tendencies in railway regulation, and the relation of European railways to the state. Three hours per week. (*Not offered in 1916-17.*)

3b. TRADE UNIONISM AND LABOR PROBLEMS.—Origin and development of labor organizations, strikes and boycotts, arbitration, conciliation, and government control; the problem of women and child labor, profit sharing and co-operation, and the minimum wage. Three hours per week. (*Not offered in 1916-17.*)

4a. SOCIALISM.—Historical background, the work of Marx, various modern schools of socialistic thought; character and scope of the present socialistic movement; socialism as a criticism of classical political economy or existing institutions; socialism as a theory of social evolution and as a program of social reform. Lectures and recitations two hours per week. Tu. Th. 2.

MR. WATERMAN.

4b. INSURANCE.—The economic function of insurance, types of life policies, methods of rate-making, agency and investment; fire and other forms of property insurance; the problem of government regulation; social insurance. Lectures and recitations two hours per week. Tu. Th. 2.

MR. WATERMAN.

5a. ECONOMIC HISTORY OF THE UNITED STATES.—A critical study of the events of our history in the light of economic principles; the trend of past industrial development and the source of present conflicts. Lectures and recitations three hours per week. Tu. W. F. 3.

PROFESSOR NOURSE.

5b. CURRENT ECONOMIC PROBLEMS.—Using the preceding course as a foundation, an attempt is made to analyze our present-day problems and to get down to the essential issues upon which modern industrial society divides. The significance of property rights, separation of economic classes, social control of industry, and the goal of economic effort will be the main topics dealt with. Lectures and recitations three hours per week. Tu. W. F. 3.

PROFESSOR NOURSE.

7. ELEMENTARY SOCIOLOGY AND SOCIAL PROBLEMS.—First semester: a study of the antiquity of man; folk-ways and primitive customs; the origin of modern institutions; classification of social activities; social control of individual conduct; and the various theories of social progress. Second semester: an examination into the nature, causes, and treatment of selected social problems, crime, pauperism, mental defect, intemperance, and juvenile delinquency, discussed in the light of modern sociological theory. Lectures and recitations three hours per week. M. Tu. Th. 7.

MR. WATERMAN.

10a. THEORY AND PRACTICE OF BANKING.—Origin and functions of the various types of banking institutions; National Banks and the Federal Reserve System; practical details of bank organization and operation. Lectures and recitations three hours per week. M. Tu. Th. 4.

PROFESSOR NOURSE.

11a. CORPORATION FINANCE.—The work of the promoter, organization of the corporation; the problem of proper capitalization; the financial plan, sale of securities, management of corporate income, receivership, and reorganization; the public's interest. Lectures and recitation three hours per week. (*Not offered in 1916-17.*)

11b. THE TRUST PROBLEM.—The problem created by the growth of large incorporated business; pools, trusts, holding companies, gentlemen's agreements; the Sherman Act and subsequent state and federal legislation. Lectures and recitations three hours per week. (*Not offered in 1916-17.*)

12. AGRICULTURAL ECONOMICS.—The principles of economics applied to the concrete problems of rural life; the relation of agriculture to the other industries of our country; economic organization of the business of agriculture, transportation and the marketing of farm products, rural credits, and co-operative en-

terprises; the problem of distribution as touching rents and values of farm lands, farm labor and wages, rates of interest and profits in agriculture. Designed for all persons identified with rural communities, teachers, merchants, bankers, as well as those who expect to engage directly in farming. Lectures and recitations three hours per week. M. Tu. Th. 2.

PROFESSOR NOURSE.

13a. MONEY, CREDIT, AND PRICES.—The origin of money and the evolution of the system of metallic and paper currency now in use in the United States; lessons from the Greenback epoch and the Free Silver agitation; the nature of credit and the relation of credit instruments to other forms of currency. Lectures and recitations three hours per week. (*Not offered in 1916-17.*)

13b. PUBLIC FINANCE.—The growth of public expenditures; purpose and methods of budget-making; sources of public revenue, systems of collection and administration. Special attention will be given to the problems of state and local taxation. Lectures and recitations three hours per week. M. Tu. Th. 4.

PROFESSOR NOURSE.

## ENGLISH

PROFESSOR JONES, ASSISTANT PROFESSOR WILLIAMS, MISS HOLCOMBE, MISS DAVIS, MR. CURTISS, MISS LAWSON

The aim of the courses in the department of English is (1) to train students to write English clearly and correctly, and (2) to teach them to understand and to appreciate the best in literature. Every course in composition, therefore, is accompanied by a considerable amount of required readings, and every course in literature requires a certain amount of written criticism.

*Requirements for a Major in English*, thirty-six credit hours, including courses 1, 2, 4a or 4b, and two from the following three, 10, 11b, and 12. Students who expect to teach English in the secondary schools should complete at least twelve hours in addition to English 1 and 2 with some credits in literature and some in language. A course in the teaching of English should be included.

## COURSES

No.	Title	Credits	Prerequisites
1	Rhetoric and Composition.....	.6	†
2	English Literature in Outline.....	.6	1
3b	American Literature .....	.3	1, 2
4a	Exposition and Argumentation...	.3	1, 2
4b	The Short Story.....	.3	1, 2
5a	Prose Fiction .....	.3	1, 2
6b	Lyric Poetry .....	.3	1, 2
7a	Seventeenth Century Literature.....	.3	1, 2
8a	Eighteenth Century Literature .....	.3	1, 2
9a	Romantic Poets .....	.3	1, 2
*10	Chaucer .....	.6	†
*11b	Anglo-Saxon .....	.3	1, 2
*12	Shakespeare .....	.6	1, 2
13	English Composition .....	.6	†
*14a	Elizabethan Drama .....	.3	1, 2
17b	Tennyson and Browning.....	.3	1, 2
18	Newspaper Writing .....	.6	†
*19b	Contemporary Dramatists .....	.3	1, 2
20b	Milton .....	.3	1, 2
21b	Nineteenth Century Essayists.....	.3	1, 2
*22a	Literary Criticism .....	.3	†
*24b	Comparative Literature .....	.3	1, 2

†See statement.

\*See page 54.

Note.—Not more than one course in composition may be taken in any one year without the permission of the Department.

1. RHETORIC AND ENGLISH COMPOSITION.—Lectures, recitations, themes, and conferences, three hours per week; required supplementary reading, chiefly in recent literature; practice in exposition, argumentation, description, and narration. The instruction in composition will be based, in general, upon a study of modern masters of English prose and upon the student's own themes. An outline of the course will be furnished each student at the first meeting of the class. *Required of all freshmen who present at least three units in English for entrance.* M. Tu. F. 5, M. Tu. Th. 6, M. W. F. 3, Tu. Th. F. 2, Tu. W. F. 3, 4.

ASSISTANT PROFESSOR WILLIAMS.

MISS HOLCOMBE.

MISS DAVIS.

MR. CURTISS.

MISS LAWSON.

2. HISTORY AND DEVELOPMENT OF ENGLISH LITERATURE IN OUTLINE.—This course is intended to give the student a general view of the history and development of English literature from the Anglo-Saxon times to the end of the nineteenth century. Selected masterpieces, representative of different periods, are studied in class. A considerable amount of outside reading and weekly reports are required. The class meets as a whole one hour a week for lectures on the periods in English literature, and in small sections two hours a week for more detailed study of the reading required. M. Th. 2, 4, W. F. 3, 4, 6, all sections Tu. 3.

PROFESSOR JONES.

ASSISTANT PROFESSOR WILLIAMS.

MR. CURTISS.

3b. AMERICAN LITERATURE.—Considerable stress is laid on Colonial and Revolutionary literature with readings and reports on interesting material that the student has difficulty in finding for himself. A study is then made of Irving, Cooper, Bryant, Poe, Emerson, Lowell, Longfellow, Hawthorne, Whittier, Holmes, and Whitman, followed by a consideration of the minor poets of the South. Three hours per week. (*Not offered in 1916-17.*)

4a. ENGLISH COMPOSITION.—This course is divided into two sections, one for exposition, and one for argumentation. The purpose of the course is to teach advanced students the principles of exposition and argumentation and to develop reasoning power and literary style, as well as the ability to write clear and vigorous prose. Three hours per week. M. W. F. 1, 6.

PROFESSOR JONES.

MISS HOLCOMBE.

4b. THE SHORT STORY.—The work of this course consists partly in copious reading and criticism of short stories, and partly in story writing. The purpose of the course is to give the student a sound critical knowledge of the modern short story, and to offer practical training in the writing of fiction to those who have the necessary ability. Three hours per week. M. W. F. 1.

PROFESSOR JONES.

5a. ENGLISH PROSE FICTION.—The course involves a study of various types of prose fiction, the personalities of the writers, and the characteristics of their works. Scott, Jane Austen, Dickens, Thackeray, George Eliot, Hawthorne, Charlotte Bronte, Reade,



and Hardy are some of the authors studied. Lectures, reading, and critical reports, three hours per week. Tu. Th. F. 2.

ASSISTANT PROFESSOR WILLIAMS.

6b. LYRIC POETRY.—A study of the greatest examples of lyric poetry, not only in English but in other literatures, wherever adequate translations are available. Three hours per week. M. W. F. 6.

PROFESSOR JONES.

7a. SEVENTEENTH CENTURY LITERATURE.—A consideration of the works of Bacon, Browne, and Walton; a study of the beginnings of modern prose in Dryden; lyric poetry of the reigns of James I and Charles I; some features of the Restoration drama; allegory and satire. Lectures, assigned readings, and reports three hours per week. M. W. F. 6.

PROFESSOR JONES.

8a. EIGHTEENTH CENTURY LITERATURE.—Primarily a study of the prose and poetry of the Classical period, with an attempt to outline the principles of Classicism. Some attention is given to the beginnings of Romanticism, as shown in the works of such writers as Thomson, Collins, Gray, Cowper, Chatterton, Macpherson, Burns, and Blake. A brief treatment of the rise of literary types, such as the periodical essay and the novel. Three hours per week. (*Not offered in 1916-17.*)

9a. BRITISH ROMANTIC POETS OF THE NINETEENTH CENTURY.—This course deals principally with the poetry of Wordsworth, Coleridge, Scott, Byron, Shelley, and Keats. Through the work of these men is traced the development of English Romantic poetry, as related to the life and thought of the nineteenth century. Lectures and recitations, three hours per week. Tu. W. F. 5.

MR. CURTISS.

10. CHAUCER.—A study of Chaucer's language and literary style for the purpose of comprehending his genius as a poet. Students must have the consent of the instructor before electing this course. Three hours per week. M. W. F. 4.

PROFESSOR JONES.

11b. ANGLO-SAXON.—The purpose of this course is to give students a knowledge of the earliest form of English. Constant

comparison of modern English with Anglo-Saxon is made. Three hours per week. M. Tu. Th. 6.

PROFESSOR JONES.

12. SHAKESPEARE.—A critical study of six plays. Three hours per week. M. W. F. 3.

ASSISTANT PROFESSOR WILLIAMS.

13. ENGLISH COMPOSITION.—A course in technical writing, with some study of scientific and technical models. This course is open only to students in the courses in agriculture and engineering who have credit for English 1. Lectures, recitations, themes, and conferences, three hours per week. *Required in the junior year of all candidates for the degree of Bachelor of Science in Agriculture.* M. W. F. 3.

PROFESSOR JONES.

14a. THE DRAMA IN ENGLAND FROM 1580 TO 1642.—While the course deals chiefly with Lyly, Greene, Kyd, Peele, Marlowe, Shakespeare, Ben Jonson, Dekker, Marston, Heywood, Chapman, Middleton, Beaumont and Fletcher, Webster, Ford, Massinger, and Shirley, from a dramatic and literary point of view, a historical background will be given by lectures on the pre-Elizabethan drama as an introduction to the course proper. Lectures, readings, and reports three hours per week. (*Not offered in 1916-17.*)

17b. BROWNING AND TENNYSON.—Emphasis is placed, in this course, upon the art and thought of Browning and Tennyson, in their relation to modern life. Lectures and recitations, three hours per week. T. W. F. 5.

MR. CURTISS.

18. NEWSPAPER WRITING.—The purpose of this course is to give training in the theory and practice of newspaper work. Reporting, copy-reading, and proof reading are dealt with as practically as possible by carrying on much of the work of the class in connection with student publications and the local newspapers. No student may elect this course without the consent of the instructor. Three hours per week. (*Not offered in 1916-17.*)

19b. THE CONTEMPORARY DRAMA.—A study of contemporary plays in Europe and America from the literary, dramatic, and social points of view, with discussion and illustration of dramatic principles. Some of the playwrights to whom particular attention is given are Ibsen, Hauptmann, Sudermann, Rostand,

Maeterlinck, Pinero, Jones, Galsworthy, Thomas, Fitch, and Moody. Lectures, reading, and dramatic criticism, three hours per week. Tu. Th. F. 2.

ASSISTANT PROFESSOR WILLIAMS.

20b. MILTON.—An intensive study of the poetry of Milton, with some consideration of his prose. Lectures and recitations, three hours per week. (*Not offered in 1916-17.*)

21b. ESSAYISTS OF THE NINETEENTH CENTURY.—Attention is given chiefly to Lamb, DeQuincey, Macaulay, Carlyle, Emerson, Newman, and Arnold. Lectures, reading, and reports, three hours per week. M. Tu. Th. 6.

MISS HOLCOMBE.

22a. LITERARY CRITICISM.—The aim of this course is to present the more generally accepted principles of literary criticism and to apply them to the chief types of literature, such as the drama, the essay, prose fiction, and poetry. Students must have the consent of the instructor before electing this course. Three hours per week. Tu. W. F. 2.

PROFESSOR JONES.

24b. COMPARATIVE LITERATURE.—A general survey of some of the more important works of continental writers and of literary tendencies since the Renaissance, with stress upon such as have been influential in England. A number of masterpieces, either individually important or representing great movements in literature, will be read in translation. Three hours per week. Tu. W. F. 2.

PROFESSOR JONES.

## FINE ARTS

PROFESSOR TOVEY, MISS GALBRAITH, MRS. CROCKETT, MRS. BATHMAN, MISS METZGER, MISS BELL, MR. MITCHELL

The Department of Fine Arts offers courses in instrumental music, including piano, organ, and violin, vocal music, art, and expression. These courses may be elected, without credit, by students in all colleges. Candidates for the degree of Bachelor of Arts or Bachelor of Science in Education may receive credit, not to exceed eighteen hours in this department, such credit not to include any course in which a tuition fee is paid to the instructor by the student.

A diploma and a certificate are issued for the successful completion of the special courses in music, the requirements for which will be found on page 51. A statement of tuition and fees is given on page 36.

## COURSES

No.	Title	Credits	Prerequisites
<b>Music</b>			
1	Harmony .....	2	†
2	Advanced Harmony .....	2	†
3	History of Music .....	2	†
4	Opera Study .....	2	†
5	Counterpoint .....	2	†
<b>Piano</b>			
1a	Preparatory Grade .....	2 or 4	†
2a	Intermediate Grade .....	2 or 4	†
3a	Advanced Grade .....	2 or 4	†
4a	Accompaniment .....	2 or 4	†
5a	Teachers' Course .....	2 or 4	†
<b>Pipe Organ</b>			
1	Pipe Organ .....	4	†
<b>Violin</b>			
1	First and Second Grades.....	4	†
2	Third and Fourth Grades .....	4	†
3	Fifth and Sixth Grades .....	4	†
<b>Voice</b>			
1	Preparatory Grade .....	4	†
2	Intermediate Grade .....	4	†
3	Advanced Grades .....	4	†
<b>Art</b>			
1	Pictorial Composition .....	3	†
2a	Theory of Design .....	4	†
3	Drawing .....	5	†
4	Still Life and Landscape Painting.....	5	†
5	Public School Drawing .....	4	†
6	History of Art .....	4 or 6	†
<b>Expression</b>			
1	Vocal Expression .....	4	†
2a	Teachers' Course in Reading.....	2	1, †
3	Vocal Interpretation .....	4	1, †
4	Dramatic Interpretation of Shakespeare's Plays....	4	1, †
5	Vocal Expression as Art.....	2 or 4	1, †
6	Appreciation of the Drama.....	2	†

†Permission must be secured from the instructor in charge before registering for any course in this department.

## MUSIC

1. HARMONY.—Keys, scales, and signatures; simple part writing; chords of the seventh and their inversions; altered and augmented chords; modulation. One hour per week.

MR. MITCHELL.

2. ADVANCED HARMONY.—Modulation continued; suspensions; passing chords; unharmonic notes; organ point; harmonization of melodies; playing of figured bases; double chants and chorals. One hour per week.

MR. MITCHELL.

3. HISTORY OF MUSIC.—Music among ancient peoples; early church music; the development of polyphonic and dramatic music; the history of instrumental music and the evolution of musical instruments; the development of the opera and oratorio; modern music and musicians. One hour per week.

MR. MITCHELL.

4. OPERA STUDY.—The librettos and stories of various standard operas are studied. Concerts are given weekly, consisting of selections from Victor talking machine records with piano accompaniments. One hour per week.

PROFESSOR TOVEY.

5. COUNTERPOINT.—First semester: single counterpoint in all forms, two and three voices; second semester: single counterpoint in four voices and double counterpoint, all forms. One hour per week.

PROFESSOR TOVEY.

## PIANO

The aim of the courses in piano music is to develop technical control and power of musical conception as adapted to artistic ends.

1ab. PREPARATORY GRADES.—*National Graded Course*, Books 1 and 2; simple exercises for wrist development, major scales, broken chords, and arpeggios. Sonatinas by Diabelli, Clementi, Kuhlau, Lichner; studies from Koehler, Biehl, Loeschorn, Czerny, Gurlitt; salon pieces; preparatory octave work.

PROFESSOR TOVEY.

MISS BELL.

MR. MITCHELL.

2ab. INTERMEDIATE GRADE.—Selected technics from Tausig, Krauss, Heller, Loeschorn, *Op. 66*; Czerny, *Op. 299*; sonatas by Mozart, Haydn, Beethoven; Mendelssohn's *Songs without Words*; Smith and Low's *Octave Studies*; duets for piano and piano and violin; Bache's *Little Preludes and Fugues*.

PROFESSOR TOVEY.

MISS BELL.

MR. MITCHELL.

3ab. ADVANCED GRADE.—Extended scales in various accents; diminished and dominant seventh arpeggios; etudes from Czerny, *Op. 740*; Heller, *Op. 45*; Cramer; Clementi's *Graduas ad Parnasum*; Kullak's *Octave Studies*; Bach's *Suites, Preludes, Fugues*; Chopin, *Op. 10* and *Op. 25, Valses, Preludes, Nocturnes*; Beethoven, *Sonatas*; compositions by Mendelssohn, Schumann, Schubert, Liszt, Grieg, MacDowell, and other modern composers.

PROFESSOR TOVEY.

MISS BELL.

MR. MITCHELL.

4ab. ACCOMPANIMENT.

PROFESSOR TOVEY.

5ab. TEACHERS' COURSE.—Designed for students who expect to teach music.

PROFESSOR TOVEY.

#### PIPE ORGAN

The aim of the instruction in pipe organ is to fit pupils to hold church positions. A knowledge of organ playing will also be helpful to those who intend to be professional musicians.

PIPE ORGAN.—The preliminary organ work is based on Ritter's *Organ School* and Thayer's *Pedal Studies*. Then follow Buck's *Studies in Pedal Phrasing*, Bach's *Little Preludes and Fugues*, and selections from composers for the organ, such as Guilmant, Lemare, Tours, Hollins, Rheinberger, and others.

PROFESSOR TOVEY.

#### VIOLIN

The instruction in violin music is designed to form correct technique. In addition to the studies, the pupil is given compositions of the standard composers for the violin.

1. FIRST AND SECOND GRADES.—Studies by Dancla and Dont.

2. THIRD AND FOURTH GRADES.—Studies by Kayser, Kreutzer, and Schradick.



3. FIFTH AND SIXTH GRADES.—Studies by Kreutzer, Fiorillo, and Rode.

#### VOICE

The purpose of instruction in this branch of music is the correct production of tone and the building and development of the voice according to the old Italian method. Special stress is laid on breath control, accuracy of tone, distinct articulation, the study of intervals, scale building, sight reading, and phrasing.

1 PREPARATORY GRADES.—Marchesi's *Individual Exercises*; Panofka's *Vocalises*, Op. 85. Studies in sight reading and easy songs.

MRS. BATEMAN.

2. INTERMEDIATE GRADE.—Concone, Op. 12, Marchesi's *Individual Exercises*; Ponofka's *Vocalises*, Op. 81; Sieber's *Vocalises*, Op. 94; Concone's *Lessons*, Op. 17, and songs of moderate difficulty, including oratorio selections.

MRS. BATEMAN.

3. ADVANCED GRADES.—Lamperti's *Studies in Bravura*. Oratorio and opera arias and more difficult songs by English, French, Italian, and German composers.

MRS. BATEMAN.

#### THEORY AND PRACTICE OF ART

The plan of incorporating a practical school of drawing and painting in a college course has been demonstrated as not only possible but very successful. The studio work is conducted in the same manner as in the purely technical art schools, while the students have the advantage of doing regular college work which renders them more sensitive to artistic impressions.

No tuition is charged for any of the courses but a studio fee of two dollars is required in all courses except Public School Drawing.

1. PICTORAL COMPOSITION.—Study and practice in composing a picture. One original composition is required each week. Class and studio practice three hours per week.

MISS GALBRAITH.

2ab. THEORY OF DESIGN.—Two hours of theory and practice of design, and two hours of instruction and practical application of the principles of design to definite problems.

MISS METZGER.

3. DRAWING.—Drawing from casts, life, and perspective problems, five hours per week.

MISS GALBRAITH.

4. STILL LIFE AND LANDSCAPE PAINTING.—Painting still life and landscape with original composition, five hours per week.

MISS GALBRAITH.

5. PUBLIC SCHOOL DRAWING.—A critical study of the theories and methods of teaching drawing in the public schools, conducted upon pedagogic principles. Designed for prospective teachers. Four hours per week. M. 4-7.

MISS METZGER.

6. HISTORY OF ART.—A study of the history of architecture, sculpture, and painting, intended to develop an appreciation of the masters. Prints, photographs, and lantern slides will be used to illustrate the course. Three hours per week. M. W. F. 7.

MISS GALBRAITH.

#### EXPRESSION

The aim of the courses in this department is (1) to secure naturalness and freedom from self-consciousness in reading and speaking and (2) to train the student to arrive at a correct understanding of literature and the appreciation of its spirit and essence through vocal interpretation. The student is made to realize that the reader's concept is mental; and the voice and body are trained to willing obedience to this mentality. Close attention is given to voice culture and correct articulation.

A maximum of twelve hours credit in expression will be allowed towards the degree of *Bachelor of Arts* or *Bachelor of Science in Education*, but such credit will not be allowed in both courses 3 and 5.

1. VOCAL EXPRESSION.—First semester, the fundamental principles in the correct use of voice and body in speaking and reading; second semester, accuracy of observation and care in analysis. The student is trained to read aloud simply, easily, and naturally, from such works as the Old Testament, Emerson's essays, Longfellow's poems, and Shakespeare's plays. Two hours per week. This course is open only to a limited number of students. Tu. F. 2; M. F. 4.

MRS. CROCKETT.

2a. **TEACHERS' COURSE IN READING.**—Designed for prospective public school teachers; aims to give a definite, practical method of instruction which shall apply to each grade. Two hours per week. Tu. Th. 4.

MRS. CROCKETT.

3. **VOCAL INTERPRETATION.**—An advanced course in the vocal interpretation of literature. Designed particularly for those who intend to teach English literature. Especial attention is given to the study of Tennyson, Browning and the dramatic monologue, forms of literature, and literary analysis. Two hours per week. Tu. Th. 1.

MRS. CROCKETT.

4. **DRAMATIC INTERPRETATION OF SHAKESPEARE'S PLAYS.**—A careful analysis and reading of three or four plays. At the end of the year one of the plays will be given in costume by members of the class. Students in this course are advised to take English 12. Two hours per week. M. Th. 6.

MRS. CROCKETT.

5. **VOCAL EXPRESSION AS ART.**—Students will be required to prepare selections and present them before the class for criticism. Impersonation, gesture, dialect, reading, recitation, the preparation of programs, and "cutting" and adapting selections for the platform receive special attention. One or two hours per week.

MRS. CROCKETT.

6. **THE APPRECIATION OF THE DRAMA.**—The drama is studied as a branch of literature. Frequent readings by the instructor from masterpieces of the drama are given before the class. Students will be expected to take part in the presentation of plays. The class is affiliated with the *Drama League of America*, and follows the plans for study offered by the League through its bulletins. One hour per week.

MRS. CROCKETT.

## GEOLOGY

PROFESSOR DRAKE

*Requirements for a Major in Geology*, courses 1a, 1b, 2, 3, 5a, 5b, 6a, 7, and 4a or Mining Engineering 1b, in addition to which a report must be submitted in the senior year, to include maps, sections, and other necessary illustrations of some area, the geology of which the student has made a special study. Students who expect to teach geography and physiography in the secondary schools should complete, as a minimum requirement, courses 1a, 1b, and 3. A course in the teaching of science should be included. Students in the course in agriculture are recommended to take courses 1a and 1b, and students in the course in civil engineering, courses 1b, 5b, and 6a. Students who are seeking a knowledge of geology as a part of a general cultural education should take courses 1a, 1b, and 2.

As an aid in the instruction in geology, localities about the University will be cited and some field work in those localities required of students. Within easy reach of the University are found formations from the Cambro-Ordovician to the Pennsylvanian, inclusive. The Ozark plateau region about Fayetteville offers abundant opportunity for physiographic studies and stratigraphic mapping as well as paleontological studies.

## COURSES

No.	Title	Credits	Prerequisites
1a	Meteorology and Geography.....	4	None
1b	Physical Geology .....	4	None
2	Historical Geology .....	6	1b
*3ab	Practical Geology .....	3 or 6	1b
*4a	Paleontology .....	3	2
5a	Crystallography and Mineralogy .....	3	Math. 1b, and Chem. 1
5b	Determinative Mineralogy and Blow-Pipe Analysis .....	2, 3 or 4	Chem. 1
6a	Economic Geology .....	3	1b, 5b
*7	Petrology .....	6	5a, 5b

\*See page 54.

1a. METEOROLOGY AND GEOGRAPHY.—An elementary course dealing with the causes of movements of the atmosphere and waters of the oceans, the distribution of heat over the earth, and the

influence of climate and environments of land and water upon plant and animal life. Lectures and recitations five hours per week. M. Tu. W. Th. F. 3, 6, 7.

PROFESSOR DRAKE.

1b. PHYSICAL GEOLOGY.—A study of the materials of the earth; the geologic work of the atmosphere, water, organic life, and volcanoes; and the structural features of the earth. Lectures and recitations five hours per week. M. Tu. W. Th. F. 3, 6, 7.

PROFESSOR DRAKE.

2. HISTORICAL GEOLOGY.—The origin of the earth; earth history; the evolution of life and its relationships. Lectures and recitations three hours per week. M. Tu. W. 2.

PROFESSOR DRAKE.

3. PRACTICAL GEOLOGY.—Field and laboratory work nine hours per week, including the construction of geological maps and sections.

PROFESSOR DRAKE.

4a. PALEONTOLOGY.—Recitation one hour, and field and laboratory work six hours per week, involving the collection of a local fauna and its study.

PROFESSOR DRAKE.

5a. CRYSTALOGRAPHY AND MINERALOGY.—Lectures and recitations three hours per week on the elements of geometric crystallography, followed by laboratory work on the determination of minerals.

PROFESSOR DRAKE.

5b. DETERMINATIVE MINERALOGY AND BLOW-PIPE ANALYSIS.—Determination of minerals by the use of the blow-pipe and in the wet way. Offered the first semester for civil engineering students. Laboratory four hours per week.

PROFESSOR DRAKE.

6a. ECONOMIC GEOLOGY.—The formation, mode of occurrence, uses, and geographic distribution of geologic products. Lectures and recitations three hours per week.

PROFESSOR DRAKE.

7. PETROLOGY.—Microscopical and macroscopical determination of minerals and rocks; classification of rocks. Lectures and recitations three hours per week.

PROFESSOR DRAKE.

## GERMAN

\*PROFESSOR BRISCOE, PROFESSOR LUSSKY, MISS MEHLBURGER

The aim of the courses in German is to acquaint the student with the German language and literature as a means of culture. An effort is made to create a German atmosphere for the class room, and to give the student a knowledge of the history, customs, and institutions of the German people. Consideration is given to the needs of those students who wish to learn the language for use in other fields of knowledge.

*Requirements for a Major in German*, thirty-six credit hours. Students preparing to teach German in secondary schools, should complete courses 1, 2, 2c, 3, 4, and 5, or their equivalent. A course in the teaching of modern languages should be included.

## COURSES

No.	Title	Credits	Prerequisites.
1	Elementary German .....	8	None
2	Modern German Prose.....	6	1
2c	German Composition .....	4	1
3	Goethe and Schiller.....	6	1, 2
4	German Composition and Conversation.....	6	1, 2, 2c
*3ab	History of German Literature.....	6	1, 2, 2c, 3
6	Scientific German .....	4	1, 2
*7	German Lyric and Ballad Poetry.....	4	1, 2, 2c, 3
*8	The German Novel .....	4	1, 2, 2c, 3
*9	The German Drama of the Nineteenth Century .....	4	1, 2, 2c, 3
*10	Advanced Composition .....	4	1, 2, 2c, 3, 4
*11	Middle High German.....	4	†
*12	Advanced German Grammar.....	4	1, 2, 2c, 3, 4
*13	German Conversation .....	4	1, 2, 2c, 3, 4
*14	Current German Publications .....	4	†

†See statement.

\*See page 54.

1. ELEMENTARY GERMAN. Grammar, composition, reading of easy texts with conversation, reproduction of assimilated texts; five hours per week.

PROFESSOR BRISCOE.  
PROFESSOR LUSSKY.  
MISS MEHLBURGER.

\*Absent on leave, 1915-16.



2. MODERN GERMAN PROSE.—Reading of prose from nineteenth century authors, such as Storm, Heyse, Hauff, Baumbach, Freytag; practice in conversation with the text as a basis; study of German idioms; written and oral reproduction of text read and assimilated; three hours per week. M. W. F. 3; Tu. W. F. 7.

PROFESSOR BRISCOE.

PROFESSOR LUSSKY.

2c. GERMAN COMPOSITION.—A thorough review of grammar is attempted with a systematic introduction of new principles in composition; two hours per week. Tu. Th. 1.

PROFESSOR BRISCOE.

PROFESSOR LUSSKY.

3. GOETHE AND SCHILLER.—The study of the lives and selected works of these authors; collateral reading and reports. Lectures and recitations three hours per week. M. Tu. Th. 2.

PROFESSOR BRISCOE.

PROFESSOR LUSSKY.

4. GERMAN COMPOSITION AND CONVERSATION.—Drill in writing and speaking German, based on texts dealing with the geography, history, customs, and institutions of the German people. This course is suited especially to those students who intend to teach the language. Three hours per week. M. W. F. 2.

PROFESSOR BRISCOE.

PROFESSOR LUSSKY.

5a. HISTORY OF GERMAN LITERATURE.—The history of German literature to the middle of the eighteenth century, with reading of modern German translations from *Ultilas*, the *Lay of Hildebrand*, the *Eddas*, the *Heliand*, *Otfried's Book of the Gospels*, *Konrad's Rolandslied*, the *Nibelungenlied*, *Gudrun*, *Heinrich von Veldecke's Eneid*, *Hartman von Aue's Armer Heinrich*, *Wolfram von Eschenbach's Parzival*, *Gottfried von Strassburg's Tristan*, *Walther von der Vogelweide*. Lectures and recitations three hours per week. M. Tu. Th. 7.

PROFESSOR BRISCOE.

PROFESSOR LUSSKY.

5b. HISTORY OF GERMAN LITERATURE.—The history of German literature from the middle of the eighteenth century to the present; a study of literary movements; reading of selected works

from the principal writers of the period. Lectures, collateral readings, and reports, three hours per week. M. Tu. Th. 7.

PROFESSOR BRISCOE.

PROFESSOR LUSSKY.

6. SCIENTIFIC GERMAN.—Rapid reading of texts on a variety of subjects, such as chemistry, physics, geology, mathematics. Two hours per week.

PROFESSOR BRISCOE.

7. GERMAN LYRIC AND BALLAD POETRY.—Lyrics and ballads of the eighteenth and nineteenth centuries; collateral readings and reports. Two hours per week.

PROFESSOR BRISCOE.

8. THE GERMAN NOVEL.—Study of the novel from its origin to the present; extensive reading with reports. Students who elect this course must be able to read German with ease. Lectures and assigned readings two hours per week.

PROFESSOR BRISCOE.

9. THE GERMAN DRAMA OF THE NINETEENTH CENTURY.—Study of selected works from Kleist, Grillparzer, Hebbel, Ludwig, Wildenbruch, Sudermann, Hauptmann, and Fulda. Lectures and recitations two hours per week.

PROFESSOR BRISCOE.

10. ADVANCED COMPOSITION.—Original composition, letter writing, commercial correspondence. One long theme a week is required of members of this class. These compositions will be discussed in the class and errors of syntax and style pointed out. Two hours per week.

PROFESSOR BRISCOE.

11. MIDDLE HIGH GERMAN.—Grammar and selected readings; two hours per week. Permission must be obtained from the instructor before registering for this course.

PROFESSOR BRISCOE.

12. ADVANCED GERMAN GRAMMAR.—A systematic study of modern German grammar. Intended primarily for students who are preparing themselves to teach German. Lectures and discussions, two hours per week.

PROFESSOR BRISCOE.

13. GERMAN CONVERSATION.—Two hours credit will be given on this course. Little outside preparation necessary.

PROFESSOR BRISCOE.

14. CURRENT PUBLICATIONS.—Reading and discussion of articles in the leading German periodicals, two hours per week. Permission must be obtained from the instructor before registering for this course.

PROFESSOR BRISCOE.

## HISTORY AND POLITICAL SCIENCE

PROFESSOR THOMAS, ASSISTANT PROFESSOR MURPHY

The courses in this department are designed to form a part of a general cultural education. They are essential to a thorough preparation for law, journalism, politics, ministry, or any other public calling. History 1 is foundation work and should be taken in the freshman year.

*Requirements for a Major in History*, thirty credit hours. Students expecting to teach history in the secondary schools should complete at least eighteen credit hours in the department. Course 1 should be the basis for this work, and courses 2 or 3a, and 5 should follow.

### COURSES

No.	Title	Credits	Prerequisites
1	Mediaeval and Modern History.....	6	None
2	History of the United States to 1914.....	6	None
3a	History of the United States 1776-1845.....	3	1
3b	History of the United States 1845-1914.....	3	3a
5a	History of England to 1485.....	3	1 or 2
5b	History of England since 1485.....	3	1 or 2
6a	National Government .....	3	6 hours
6b	International Law .....	3	6 hours
7a	French Revolution and the Napoleonic Era.....	2	6 hours
7b	Democratic Movement in the Nineteenth Century..	2	6 hours
*6a	England under the Tudors and Stuarts.....	3	12 hours
*6b	The British Empire.....	3	12 hours
9a	History of Greece .....	2	6 hours
9b	History of Rome .....	2	6 hours
10	Current History .....	2	6 hours
*13a	The United States 1763-1789.....	2	12 hours
*13b	The Civil War and Reconstruction.....	2	12 hours
*14	Reconstruction in Arkansas.....	2	13
15a	American National Government.....	2	6 hours
15b	American State and Local Government.....	2	6 hours

\*See page 54.

1. **MEDIEVAL AND MODERN HISTORY.**—Designed to give the student a knowledge of the essential contributions of the ancient world to history, of the reorganization of German society upon the basis of Græco-Roman civilization, and the beginnings of the modern state, the Renaissance, the Reformation, the great religious wars, absolutism, the contest for supremacy on the high seas, the French Revolution, and the democratic movements of the nineteenth century. Lectures and recitations, three hours per week. M. F. 2 W. 5; M. F. 4 W. 5; M. F. 6 W. 5; Tu. Th. 2 W. 5.

PROFESSOR THOMAS.

ASSISTANT PROFESSOR MURPHY.

2. **HISTORY OF THE UNITED STATES TO 1914.**—Designed for students who expect to teach American history in the secondary schools. Lectures, recitations, and collateral reading from current periodicals. Three hours per week. Credit will not be given in course 2 if course 3 is taken. M. W. F. 3.

ASSISTANT PROFESSOR MURPHY.

3a. **HISTORY OF THE UNITED STATES, 1776-1845.**—After a brief survey of the antecedents of the Revolution, a careful study will be made of the Confederation, the formation of the Constitution, the careers of the Federalist and Republican parties, expansion, the settlement of the West, tariff and financial legislation, special attention being given to the growth of nationality and of democracy. Designed for students who wish a more intensive course in modern history, or who intend to make history their major. Lectures and recitations three hours per week. M. W. F. 4.

PROFESSOR THOMAS.

3b. **HISTORY OF THE UNITED STATES, 1845-1916.**—Special attention will be given to the gradual sectionalization of the country over slavery and states' rights, the results of the Civil War and Reconstruction, the industrial and social development of recent times, and the growth of democracy. Lectures, recitations, and considerable outside reading. Three hours per week. M. W. F. 4.

PROFESSOR THOMAS.

5a. **HISTORY OF ENGLAND TO 1485.**—A general course treating the political, literary, religious, and economic activities of the people. The origin and growth of the more important institutions

such as kingship, parliament, courts, the church, and the struggle for constitutional government will be discussed. Lectures and recitations three hours per week. M. W. F. 1.

ASSISTANT PROFESSOR MURPHY.

5b. HISTORY OF ENGLAND SINCE 1485.—A general course treating the history of the Renaissance, the Reformation, the struggle for constitutional and democratic government, the industrial revolution, and the founding of the British Empire. Lectures and recitations three hours per week. Tu. W. Th. 1.

ASSISTANT PROFESSOR MURPHY.

6a. NATIONAL GOVERNMENT.—A study and comparison of the structure and powers of the national governments of the United States and of the leading European nations. Special attention will be given to the place of the federal system in public law. This course will be based on the works of Ogg, Beard, Garner, Burgess, and the constitutions of the different countries. Open to juniors and seniors. Lectures and recitations three hours per week. M. W. F. 3.

PROFESSOR THOMAS.

6b. INTERNATIONAL LAW.—A study of the development of international law and of the usages and principles now considered binding on civilized nations. Open to juniors and seniors. Lectures and recitations three hours per week, with considerable outside reading. M. W. F. 3.

PROFESSOR THOMAS.

7a. FRENCH REVOLUTION AND THE NAPOLEONIC ERA.—France on the eve of the Revolution; French political philosophers; causes and events of the Revolution; and the wars of Napoleon. Lectures and recitations two hours per week. Tu. Th. 4.

ASSISTANT PROFESSOR MURPHY.

7b. DEMOCRATIC MOVEMENT IN THE NINETEENTH CENTURY.—A brief survey of Europe in 1815 will be made, after which the development of constitutional government will be considered; the unification of Italy and Germany; and the present condition of world politics. Lectures and recitations two hours per week. Tu. Th. 4.

ASSISTANT PROFESSOR MURPHY.

8a. ENGLAND UNDER THE TUDORS AND THE STUARTS.—A study of the political, religious, literary, and economic history of

England during these two periods. Lectures and recitations three hours per week. (*Not offered in 1916-17.*)

8b. THE BRITISH EMPIRE.—While a brief survey of the general history of England through the eighteenth and nineteenth centuries will be made, attention will be devoted mainly to a study of England's colonial history and of the forces that have developed the British Empire of today, including an analysis of the present imperial policy. Lectures, recitations, and collateral reading. Three hours per week. (*Not offered in 1916-17.*)

9a. HISTORY OF GREECE.—Designed to give a more extensive knowledge of the history and institutions of the Greeks. A general knowledge of the subject is presumed. Lectures and recitations two hours per week. Tu. Th. 4.

PROFESSOR THOMAS.

9b. HISTORY OF ROME.—Designed to give a more extensive knowledge of the history and institutions of the Romans. A general knowledge of the subject is presumed. Lectures and recitations two hours per week. Tu. Th. 4.

PROFESSOR THOMAS.

10. CURRENT HISTORY.—A library course in contemporary history. Use will be made of some of the best daily papers, the standard weekly and monthly magazines, including some foreign periodicals, and annual publications, such as the *Statesman's Year Book*, the *American Year Book*, the *Annual Register*, the *International Year Book*, the *World's Almanac*, maps, encyclopedias, and general histories. Each student will take up some problems of today and trace it back to its historical setting. There will be frequent conferences with instructors and weekly reports on topics. One hour per week. Tu. 3.

PROFESSOR THOMAS.

ASSISTANT PROFESSOR MURPHY.

13a. THE UNITED STATES, 1763-1789.—A study of the colonies in their relation to the mother country, with special reference to the attempt at imperial taxation. Particular attention will be given to the literature of the period as preparing the colonists for separation. The steps leading to the Declaration of Independence, the failure of the Confederation, and the formation and adoption of the Constitution will be studied in detail. Lectures and recitations two hours per week. (*Not offered in 1916-17.*)



13b. THE CIVIL WAR AND RECONSTRUCTION.—The first part of this course will deal mainly with the events leading up to the war; the second part, with the political, economic, and social phases of the Reconstruction. Lectures and recitations two hours per week. (*Not offered in 1916-17.*)

14. RECONSTRUCTION IN ARKANSAS.—A seminar study from original sources of the history of the Reconstruction in typical counties of Arkansas. During the summer students will gather data from county records, newspaper files, and personal interviews. From this material a thesis will be prepared under the supervision of the instructor.

PROFESSOR THOMAS.

15a. AMERICAN NATIONAL GOVERNMENT.—A basic course for more advanced work in government. Some attention will be given to the organization of our national government and to the work of the co-ordinate branches, but most emphasis will be laid upon the work of administration. Lectures and recitations two hours per week. W. F. 2.

PROFESSOR THOMAS.

15b. AMERICAN STATE AND LOCAL GOVERNMENT.—A brief review of the development of American state constitutions, followed by a study of the structure and workings of state governments as organized today and of some of the practical problems now before the states; a brief survey of county and municipal government. Lectures, recitations, and collateral reading. Two hours per week.

PROFESSOR THOMAS.

## MATHEMATICS AND ASTRONOMY

PROFESSOR DROKE, ASSOCIATE PROFESSOR DUNN, ‡ASSOCIATE PROFESSOR HARDING, ASSISTANT PROFESSOR MISER.

The courses in this department are designed to meet the requirements of (1) students in the courses in engineering, (2) students who expect to teach mathematics, and (3) students who are interested in mathematics for the sake of the subject itself.

*Requirements for a Major in Mathematics*, thirty-four credit hours, including courses 3, 5, 8, and 9 or 20, or their equivalent.

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‡Absent on leave, 1915-16.

Students in engineering may elect, in addition to the prescribed courses, 12a and 20. Students who are preparing to teach mathematics in the secondary schools must complete courses 3, 5, 8, 9, 13b, 14a, and 16. Students who wish only a general knowledge of the subject may take courses 3 and 16.

## COURSES

Mathematics			
No.	Title	Credits	Prerequisite
Cab	Elementary Algebra .....	3 or 6	†
D	Plane Geometry .....	6	†
1a	College Algebra .....	3	†
1b	Solid Geometry .....	3	†
2a	Plane Trigonometry .....	3	†
2b	Analytic Geometry .....	3	2a
3	College Algebra, Solid Geometry, and Plane Trigonometry .....	10	†
4a	Advanced College Algebra.....	3	1a
4b	Advanced Analytic Geometry.....	3	2b
5	Analytic Geometry .....	6 or 8	1a, 1b, 2a or 3
7	Differential and Integral Calculus.....	6	1a, 1b, 2a, 2b
8	Differential and Integral Calculus.....	8 or 10	3, 5
9	Theory of Equations.....	6	5
10a	Algebra and Plane Trigonometry.....	4	†
11	Spherical Geometry, Analytic and Spherical Trigonometry .....	6	3
12a	Elementary Mechanics .....	4	4a, 4b, 7
13b	Teaching Mathematics .....	3	5
14a	History of Mathematics.....	2	5
*20	Differential Equations .....	6	8
*21	Analytic Geometry of Three Dimensions.....	6	8
*22	Theoretical Mechanics .....	6	8, 12a
*23	Advanced Calculus .....	6	8
*24	Advanced Algebra .....	4	5, 9
*25	Elementary Analysis .....	6	8, 9
*26	Projective Geometry .....	6	8, 9
Astronomy			
16	Elementary Descriptive Astronomy.....	6	None
17	Mathematical Astronomy .....	6	3, 16
*27	Celestial Mechanics .....	6	16, 20

†See statement.

\*See page 54.

Note.—Full credit on courses C and D will be given only when they are taken as a part of the student's first sixty-four hours credit. Half credit only will be given if taken after the student has completed sixty-four hours credit. No credit will be given if taken after the student has completed ninety-six hours credit.

## MATHEMATICS

Cab. ELEMENTARY ALGEBRA.—A collegiate treatment of advanced high school algebra. Designed for students who offer only one unit in algebra for entrance. Three hours per week.

ASSOCIATE PROFESSOR HARDING.

D. PLANE GEOMETRY.—A collegiate treatment of plane geometry. Designed for students who offer no geometry for entrance. Three hours per week.

ASSISTANT PROFESSOR MISER.

1a. COLLEGE ALGEBRA.—*Required of students in the courses in engineering, elective for students in other courses.* Designed for students who offer at least one and one-half units in algebra for entrance. Three hours per week. M. W. F. 1, 4.

ASSOCIATE PROFESSOR DUNN.

ASSOCIATE PROFESSOR HARDING.

1b. SOLID GEOMETRY.—*Required of students in the courses in engineering, elective for students in other courses.* Designed for students who offer at least one unit of plane geometry for entrance. Three hours per week. M. W. F. 1, 4.

ASSOCIATE PROFESSOR DUNN.

ASSOCIATE PROFESSOR HARDING.

2a. PLANE TRIGONOMETRY.—*Required of students in the courses in engineering, elective for students in other courses.* Designed for students who offer at least one unit of plane geometry for entrance. Three hours per week. Tu. W. Th. 2, 3.

ASSOCIATE PROFESSOR DUNN.

ASSISTANT PROFESSOR MISER.

2b. ANALYTIC GEOMETRY.—*Required of students in the courses in engineering, elective for students in other courses.* Three hours per week. Tu. W. Th. 2, 3.

ASSOCIATE PROFESSOR DUNN.

ASSISTANT PROFESSOR MISER.

3. COLLEGE ALGEBRA, SOLID GEOMETRY, AND PLANE TRIGONOMETRY.—About twelve weeks devoted to each subject, five hours per week. Designed for students who offer at least one unit in algebra and one unit in plane geometry for entrance. M. Tu. W. Th. F. 6.

PROFESSOR DROKE.

4a. ADVANCED ALGEBRA.—Continuation of course 1a. *Required of students in the courses in engineering, elective for students in other courses.* Three hours per week. M. W. F. 4.

ASSISTANT PROFESSOR MISER.

4b. ADVANCED ANALYTIC GEOMETRY.—Continuation of course 2b. *Required of students in the courses in engineering, elective for students in other courses.* Three hours per week. M. W. F. 4.

ASSISTANT PROFESSOR MISER.

5. ANALYTIC GEOMETRY.—Open to students who have conditional credit in solid geometry and plane trigonometry from high school. Four hours per week. May be elected as a three hour course by students in the courses in engineering to replace 2b and 4b. M. W. F. 2.

PROFESSOR DROKE.

7. DIFFERENTIAL AND INTEGRAL CALCULUS.—*Required of students in the courses in engineering, elective for students in other courses.* Three hours per week. M. W. F. 4.

ASSISTANT PROFESSOR MISER.

8. DIFFERENTIAL AND INTEGRAL CALCULUS.—Open to juniors and seniors in the College of Arts and Sciences. Four or five hours per week.

PROFESSOR DROKE.

9. THEORY OF EQUATIONS.—Three hours per week. M. W. F. 3.

ASSOCIATE PROFESSOR HARDING.

10a. ALGEBRA AND PLANE TRIGONOMETRY.—Factoring, fractional equations, theory of exponents, radicals, and quadratic equations; trigonometric functions, functions of multiple and sub-multiple angles, and solution of triangles. *Required of students in the course in agriculture.* Four hours per week. Tu. W. Th. F. 5.

ASSOCIATE PROFESSOR DUNN.

11. SPHERICAL GEOMETRY, ANALYTIC AND SPHERICAL TRIGONOMETRY.—Three hours per week.

12a. ELEMENTARY MECHANICS.—A study of the application of mathematics to mechanics; the laws of statics and dynamics, forces, motion of particles, friction, work, and energy. Open to all juniors. Four hours per week. Tu. W. Th. F. 4.

13b. TEACHING MATHEMATICS.—Designed for prospective high school and elementary school teachers. Three hours per week.

14a. HISTORY OF MATHEMATICS.—Recommended to those who are majoring in mathematics. Two hours per week.

20. DIFFERENTIAL EQUATIONS.—Three hours per week.
21. ANALYTIC GEOMETRY OF THREE DIMENSIONS.—Three hours per week.
22. THEORETICAL MECHANICS.—Three hours per week.
23. ADVANCED CALCULUS.—Three hours per week.
24. ADVANCED ALGEBRA.—Two hours per week.
25. ELEMENTARY ANALYSIS.—A study of some of the fundamental conceptions of analysis. Three hours per week.
26. PROJECTIVE GEOMETRY.—Projective forms, the principle of duality, projectives, harmonic sections, conic sections, and algebra of points. Three hours per week.

#### ASTRONOMY

16. ELEMENTARY DESCRIPTIVE ASTRONOMY.—Lectures and recitations three hours per week, with occasional meetings at night for observation. A knowledge of college mathematics is not necessary. M. W. F. 6.

ASSOCIATE PROFESSOR HARDING.

17. MATHEMATICAL ASTRONOMY.—Astronomical co-ordinates, parallax, and time determination of latitude. Three hours per week.

ASSOCIATE PROFESSOR HARDING.

27. CELESTIAL MECHANICS.—Central forces, potential and attraction of bodies, and the problem of two bodies. Three hours per week.

ASSOCIATE PROFESSOR HARDING.

#### MILITARY SCIENCE AND TACTICS

PROFESSOR BOSCHEN

Under the provisions of the Act of Congress, approved July 2nd, 1862, donating public lands for the establishment of colleges where the leading object shall be the practical instruction of the industrial classes in agriculture and mechanic arts, state institutions which are the beneficiaries of such donations are required to include military science and tactics in their course of instructions. An officer of the United States Army is detailed to each such institution to act as professor and head of this department.

The main object of the military instruction given is to qualify college trained men to become officers of infantry, militia, or volunteers. The benefits conferred upon the student by this course of training also fits him for the full duties of citizenship and gives him the normal physical development necessary to his continued well-being through life.

Students under military instruction are organized into one battalion of infantry, composed of headquarters, staff, band, and four companies, the organization, drill, and administration of which conform as far as it is possible to those of the United States Army.

The course in military training includes thorough instruction in the following:

(1) Infantry drill regulations, including the school of the soldier, the school of the squad, the school of the company, and intrenchments;

(2) Field service regulations, including the service of information and the service of security;

(3) Small-arms firing regulations, including instruction in the care and use of the rifle, and indoor gallery practice;

(4) Company administration, camp sanitation, and military map reading.

Through the medium of a course of lectures, delivered by the professor of military science and tactics, the following subjects are fully covered: the military history of the United States; the present military system of the United States; exposition of approved military policy; object of military instruction at educational institutions; marches and summer camps of instruction; camps and camping expedients; army regulations, articles of war, and military courtesy and discipline; military topography and map reading; patrolling and scouting; guard duty in time of peace and in time of war.

Graduates of the University, who have pursued the military course, will be granted a certificate by the War Department, as follows:

This is to certify that ..... a graduate of..... (Class C), has successfully completed the prescribed course in its military department, and having demonstrated his military capacity by examination, is recommended by the.....and professor of military science and tactics at .....



qualified mentally, morally, and physically for appointment as a .....  
.....of Volunteers or Reserves, and that this  
recommendation has been made of record in the War Department.

In order that a record of this certificate may remain on the files of  
the War Department, the recipient is required to keep the Adjutant  
General of the Army advised of any change in permanent address.

(Signed)

Secretary of War.

Graduates of the University, who wish to become candidates  
for a commission in the regular army, may be exempted from  
preliminary examinations in United States history and constitu-  
tion, elementary English, algebra, geometry, and trigonometry,  
upon recommendation of the professor of military science and  
tactics.

The University Corps of Cadets is inspected annually by an  
officer of the United States Army, detailed for that purpose, and  
the report of such inspection is transmitted to the Chief of Staff  
for the information of the Secretary of War.

In the execution of drills, guard duty, military ceremonies,  
and practical problems, cadets will appear in the uniform pre-  
scribed by the Board of Trustees of the University, as follows:

One blouse, cadet gray; one pair of trousers, cadet gray; one  
cap, cadet gray; one shirt, flannel, cadet gray; four pairs of  
gloves, white cotton; four collars, linen.

The contract for supplying these articles is let each year by  
the Board of Trustees to the lowest and best bidder. The goods  
are delivered by the agent of the successful bidder, subject to  
the approval of the Commandant as to fit, quality, and work-  
manship. The contract price for the year 1915-16 was \$17.60 for  
each student for the entire equipment.

Military science and tactics is required of all students in their  
freshman and sophomore years and may be elected for credit by  
students in their junior year. Seniors pursuing the course will  
receive no credit. Two credit hours for the year will be given  
for two hours of practical and one hour of theoretical instruc-  
tion per week.

## PHYSICAL EDUCATION FOR WOMEN

MISS MILLER

The purpose of the work in this department is to improve the standard of the general health and to increase the physical efficiency of the young women of the University. A physical examination is made of each student upon entrance and at such intervals through the year as may seem necessary.

The work is conducted in the indoor gymnasium and during suitable weather on outdoor courts. The uniform consists of a white middy-blouse, black serge bloomers, and gymnasium shoes.

The courses in physical education are required of all women students during their first two years of residence at the University. A maximum of eight credit hours may be used towards graduation.

## COURSES

No.	Title	Credits	Prerequisites
1	Elementary Physical Education.....	2	Required
2	Intermediate Physical Education.....	2	1
3	Advanced Gymnastics .....	2	1 and 2
4	Advanced Dancing .....	2	1 and 2
5	Teacher's Course .....	2	1 and 2

1. **ELEMENTARY PHYSICAL EDUCATION.**—General gymnastic work, games, and lectures on personal hygiene. Two hours per week. M. Th. 2, 6, 7; M. W. 3, 4; Tu. F. 3, 6.

MISS MILLER.

2. **INTERMEDIATE PHYSICAL EDUCATION.**—(1) Continuation of course 1, one hour per week; (2) basketball, indoor baseball, and tennis, one hour per week; (3) æsthetic and folk dancing, one hour per week. Students may elect either (1) and (2) or (1) and (3). Tu. Th. 4; W. F. 2; Th. F. 7.

MISS MILLER.

3. **ADVANCED GYMNASTICS.**—A continuation of course 2; fencing, field sports, and out-door games. Two hours per week.

MISS MILLER.

4. **ADVANCED DANCING.**—Two hours per week.

MISS MILLER.

5. **TEACHERS' COURSE.**—Theoretical and practical work, designed for prospective public school teachers. Two hours per week.

MISS MILLER.

## PHYSICS

PROFESSOR RIPLEY, MR. BROWN

*Requirements for a Major in Physics.* thirty-four credit hours, including courses 1 and 11 or 5 and 51, 2, 3, 7a, 8a, 9a, 10a, and 14. Students who are preparing to teach physics in the secondary schools should complete, as a minimum requirement, courses 1, 11, 2, 3, and 13.

## COURSES

No.	Title	Credits	Prerequisites
1	General Physics .....	4	†
11	General Physics Laboratory ..	2	†
2	Advanced Physics .....	6	1 or 5
3	Advanced Physics Laboratory ..	2	†
4	Mechanics .....	8	3
5	General Physics .....	6	None
51	General Physics Laboratory ..	2	†
6	Household Physics .....	6	None
61	Household Physics Laboratory ..	2	†
•7a, 7b	Heat .....	3	2, 3
•8a, 8b	Electrical Measurements ..	2	2, 3
•9a, 9b	Light .....	2	7a or 8a
•10ab	Mathematical Physics .....	3 or 6	2, 3, Math. 7
•11	Molecular Physics .....	4	2
•12a, 12b	Thermodynamics .....	3	2, Math. 7
13	Teaching Physics .....	4	2, 3
•14	Recent Advances in Physics ..	6	9a

†See statement.

•See page 54.

1. GENERAL PHYSICS.—A general course in physics designed for students who offer at least one unit of physics for entrance. *Required of students in the courses in engineering, agriculture, and chemistry.* Lectures and recitations two hours per week. Must be accompanied by course 11. Tu. Th. 1, 2, 4.

PROFESSOR RIPLEY.

MR. BROWN.

11. GENERAL PHYSICS LABORATORY.—Laboratory work to accompany course 1, two hours per week. M., Tu., W., or Th., 5-6.

PROFESSOR RIPLEY.

MR. BROWN.

2. ADVANCED GENERAL PHYSICS.—A continuation of the preceding course, with special reference to mechanics, heat, and

electricity. Lectures and recitations three hours per week. *Required of students in the courses in electrical engineering and chemistry.* M. W. F. 1.

MR. BROWN.

3. PHYSICAL LABORATORY.—Determination of moment of inertia, tension, center of mass, coefficient of friction, Young's modulus, thermal expansion, heats of fusion and vaporization, capacity, high and low potentials, and photometry. Laboratory work two hours per week, designed to accompany Physics 2. F. 6-7.

PROFESSOR RIPLEY.

4ab. MECHANICS.—A development of the theory of mechanics from the physical standpoint, with practical applications. Lectures and recitations four hours per week. M. Tu. Th. F. 1.

PROFESSOR RIPLEY.

5. GENERAL PHYSICS.—Practical problems to illustrate the application of physical laws and principles to everyday life. This is a non-mathematical course and is open to all students in the College of Arts and Sciences and the School of Education. Must be accompanied by course 5l. Lectures and recitations four hours per week. M. Tu. W. F. 3.

PROFESSOR RIPLEY.

5l. GENERAL PHYSICS LABORATORY.—Laboratory work to accompany course 5, two hours per week. M. Tu. W., or Th. 5-6.

PROFESSOR RIPLEY.

6. HOUSEHOLD PHYSICS.—Lectures and recitations three hours per week. Must be accompanied by course 6l. *Required of students in the course in home economics.* M. W. F. 4.

PROFESSOR RIPLEY.

6l. HOUSEHOLD PHYSICS LABORATORY.—Laboratory work to accompany course 6, two hours per week. M. W. 5-6.

PROFESSOR RIPLEY.

7a, 7b. HEAT.—Consists chiefly of laboratory work, five hours per week. Tu. Th. 2.

PROFESSOR RIPLEY.

8a, 8b. ELECTRICAL MEASUREMENTS.—Calibration of instruments, measurements of resistance of conductors and dielectrics, measurements of current, electromotive force, inductance, and capacity. Lecture and recitation one hour, laboratory work four hours per week.

MR. BROWN.

9a, 9b. **LIGHT.**—A treatment of the modern theory of light, with a consideration of recent advances in this branch of physics, lectures and recitations two hours per week; laboratory work in spectroscopy, the use of the photometer, optical bench, interferometer, and optical pyrometer, four hours per week.

PROFESSOR RIPLEY.

10a. **MATHEMATICAL PHYSICS, KINETIC THEORY OF GASES.**—A study of the application of this theory to diffusion and pressure of gases, to viscosity of liquids and gases, and to temperature and specific heats of gases and metals. The past fruitfulness and future promise of the theory in invention and discovery will be discussed. Lectures and recitations three hours per week.

MR. BROWN.

10b. **MATHEMATICAL PHYSICS, ELECTRON THEORY.**—A study of the application of this theory to the phenomena of radio-activity, ultra-violet light, gaseous ionization, and metallic conduction; a discussion of the theories of atomic constitution and their practical bearings. Lectures and recitations three hours per week.

MR. BROWN.

11. **MOLECULAR PHYSICS.**—Osmosis, vapor density, diffusion, electro-chemistry. Offered for students in the course in chemistry. Lectures and recitations two hours per week.

PROFESSOR RIPLEY.

12a, 12b. **THERMODYNAMICS.**—A study of the two laws of thermodynamics, Carnot's theorem, Reech's theorem, reversible and irreversible changes, change of state formulæ, with applications such as variations of elasticity with temperature, action of galvanic cells, and thermo-couples. Lectures and recitations three hours per week.

MR. BROWN.

13. **TEACHING PHYSICS.**—Discussions of methods of teaching physics, text-books and laboratory manuals, with reports on assigned topics. Designed for prospective high school teachers. Two hours per week.

PROFESSOR RIPLEY.

14. **RECENT ADVANCES IN PHYSICAL SCIENCE.**—Lectures and recitations on the electron theory, conduction of electricity through gases, radio-activity, and similar topics of current interest, three hours per week.

PROFESSOR RIPLEY.

## ROMANCE LANGUAGES

PROFESSOR MARINONI, MISS HARGIS

The courses offered by the department of Romance Languages are intended to give students an intimate acquaintance with the languages spoken in the principal Latin countries and to stimulate knowledge and appreciation of the literary attainments of the Latin people. In the higher courses emphasis is laid especially on the study of literature. In order to give students an opportunity to become familiar with the spoken idioms, several of the advanced courses are conducted in the language which forms the object of study.

Major students in the department of Romance languages upon completing the required work, are expected to have a fair speaking knowledge of at least one language. They are therefore urged to take in their second or third year of work the conversation courses offered by the department.

*Requirements for a Major in Romance Languages.* French 1, 2, 3, 4, and 5; Spanish 1 and 2 and Italian 1, or Spanish 1 and Italian 1 and 2.

Students preparing to teach either French or Spanish in the secondary schools should complete at least twenty-four credit hours in the language chosen, and in addition should include a course in teaching modern languages. Such students are strongly urged to do at least one year of practice teaching in the Training High School.

## COURSES

French			
No.	Title	Credits	Prerequisites
1	Elementary French .....	8	None
2	French Prose and Poetry .....	6	1
3	French Conversation .....	2	1
*4	French Literature of the Seventeenth Century.....	6	2
*5	French Literature of the Nineteenth Century.....	6	2
*6	Modern French Poetry.....	2	†
*7	French Drama .....	2	†
*8	Historical French Grammar.....	2	†
Italian			
1	Elementary Italian .....	8	None
2	Advanced Italian .....	6	1
Spanish			
1	Elementary Spanish .....	8	None
2	Modern Spanish .....	6	1
*3	General View of Spanish Literature .....	6	2
4	Spanish Conversation and Composition .....	4	2

†See statement.

\*See page 54.



## FRENCH

1. **ELEMENTARY FRENCH.**—Grammar, reading, recitation, composition. Pronunciation is carefully taught and oral drill insisted upon. Five hours per week.

MISS HARGIS.

2. **FRENCH PROSE AND POETRY.**—Composition, sight reading, syntax, and conversation; reading of representative works of modern French authors. Three hours per week.

MISS HARGIS.

3. **FRENCH CONVERSATION.**—Three hours per week.

MISS HARGIS.

4. **FRENCH LITERATURE OF THE SEVENTEENTH CENTURY.**—A general view of the classic periods of French literature. The most important literary productions of the century will be read and analyzed. Lectures and recitations in French, with a considerable amount of outside reading. Three hours per week.

PROFESSOR MARINONI.

5. **FRENCH LITERATURE OF THE NINETEENTH CENTURY.**—Lectures and recitations in French, with reading from the leading authors of the Romantic period. Three hours per week.

PROFESSOR MARINONI.

6. **MODERN FRENCH POETRY.**—A study of the evolution of French poetry from 1850 to the present time; new tendencies in poetry and the reaction against Romanticism, as shown in the works of Leconte de Lisle and other Parnassians. Lectures and recitations one hour per week. The permission of the instructor must be secured before registering for this course.

PROFESSOR MARINONI.

7. **FRENCH DRAMA.**—The evolution of the French drama from its origin to the present day. Lectures and recitations in French, with some outside reading. One hour per week. The permission of the instructor must be secured before registering for this course.

PROFESSOR MARINONI.

8. **HISTORICAL FRENCH GRAMMAR.**—Lectures and recitations one hour per week. The permission of the instructor must be secured before registering for this course.

PROFESSOR MARINONI.

## ITALIAN

1. ELEMENTARY ITALIAN.—Grammar, composition, dictation, and conversation, five hours per week.

PROFESSOR MARINONI.

2. ADVANCED ITALIAN.—Syntax, composition, conversation, and reading of representative modern works. The second semester will be devoted to the study of Dante's *Inferno*.

PROFESSOR MARINONI.

## SPANISH

1. ELEMENTARY SPANISH.—Grammar, composition, dictation, conversation, and reading of easy texts, five hours per week.

PROFESSOR MARINONI.

2. MODERN SPANISH.—Syntax, composition, conversation, and reading of representative modern works. Class is conducted largely in Spanish. Three hours per week.

PROFESSOR MARINONI.

3. GENERAL VIEW OF SPANISH LITERATURE.—Lectures, reports, and reading of standard works. Class is conducted in Spanish. Three hours per week.

PROFESSOR MARINONI.

4. SPANISH COMPOSITION AND CONVERSATION.—Two hours per week.

PROFESSOR MARINONI.

## SCHOOL OF EDUCATION

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The purpose of the School of Education is to bring together and correlate the forces of the University which contribute to the preparation of educational leaders in teaching and supervision, whether rural, elementary, secondary, or executive.

The curriculum of the school will be based upon the assumption that teachers should have, first of all, and fundamental to all other preparation, a broad and liberal education; second, that they should be the masters of some special subject which they expect to teach; and, third, that this training should be supplemented by professional courses designed to give them a knowledge of the minds of the pupils to be taught and the problems to be met, with a thorough course in practice teaching under experienced critic teachers.

### ADMISSION

For a statement of the entrance requirements and a description of the subjects accepted for entrance see page 22.

### COURSES OF STUDY

The school of Education offers a four-year course leading to the degree of *Bachelor of Science in Education* (B. S. E.), a graduate course leading to the degree of *Master of Science* (M. S.), and a special two-year course leading to the certificate of *Licentiate of Instruction*.

### REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN EDUCATION

The candidate must meet the residence and registration requirements, and must complete satisfactorily at least one hundred and thirty credit hours in approved courses, with the following restrictions:

1. Forty-two hours are prescribed as follows: English 1, six hours; Education, thirty-two hours, including courses 1a, 20b, 22a, 23b, and 24; Military Science and Tactics, four hours (for men), or Physical Education, four hours (for women).

2. Eighty-eight hours are elective from the following groups:

Group 1: English, French, German, Greek, Italian, Latin, and Spanish.

Group 2: Astronomy, Biology, Chemistry, Geology, Mathematics, and Physics.

Group 3: Economics, Education, History, Home Economics, Political Science, Philosophy, and Sociology.

Group 4: Agriculture, Engineering, Fine Arts, Law, and Medicine.

a. The candidate may elect not more than forty hours from any one subject and not more than eighty hours from any one group, except by special permission of the dean of the school.

b. The candidate will be required to select, not earlier than the beginning of his sophomore year and not later than the beginning of his junior year, one major of thirty hours and two minors of eighteen and twelve hours respectively, subject to the approval of the head of the department and the dean of the school. Majors and minors may be chosen only from the first three groups. A description of the major requirements of each department will be found under the departmental statements.

c. The candidate must elect not less than eighteen hours from each of the first three groups.

d. The candidate may not elect more than eighteen hours from group 4, except by special permission of the dean of the school.

e. The candidate will not be allowed credit toward a degree for any course in which fees for tuition are paid by the student to the instructor.

f. The candidate must conform as closely as possible to the following schedule in the distribution of his work:

### *Freshman Year*

English 1, six hours; Education 1a and 20b, six hours; Education 22a and 23b, four hours; Military Science and Tactics, two hours, or Physical Education, two hours; elective, fourteen hours, to be chosen from the following courses unrestrictedly open to freshmen; Biology 1, 2, or 3; Chemistry 1 and 11; French 1; Geology 1; German 1; Greek 1 or 7; History 1 or 2; Italian 1; Latin A or 1; Mathematics 1, 2, or 3; Physics 1 or 5; Spanish 1.

*Sophomore Year*

Military Science and Tactics, two hours, or Physical Education, two hours; group 1, six hours; group 2, six hours; group 3, six hours, and electives to bring the total number of hours to thirty-two.

*Junior and Senior Years*

The work of the junior and senior years is all elective, the normal schedule being thirty-four hours for each year.

*REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE*

The degree of *Master of Science* is granted for graduate work based on a four-year undergraduate course and a degree of either *Bachelor of Arts* or *Bachelor of Science in Education* from this institution or other institution of equal standing. Before a student can become a candidate for the degree, however, his petition for admission to graduate standing must receive the approval of the Senate Committee on Graduate Study and the Dean of the School of Education. Such approval may be withheld because of insufficient undergraduate preparation, poor scholarship, or similar reasons.

1. The minimum amount of time in which a candidate may complete the degree is one academic year. In individual cases, where the committee deems it necessary, more than the minimum may be required.

2. The candidate will be required to complete one major and two minors and a suitable thesis, to total thirty-two credit hours, at least twenty-eight of which must be earned by class-room work. These courses must be pursued in residence except that a graduate of this institution may complete one-half of the required number of hours by correspondence, provided that his undergraduate record is satisfactory to the committee and to the dean.

3. The major subject shall be one in which the candidate has received credit in his undergraduate work for at least twenty-four credit hours.

4. The choice of the candidate's major and minor is subject to the approval of the committee, the dean, and the candidate's major professor.

## REQUIREMENTS FOR THE CERTIFICATE OF LICENTATE OF INSTRUCTION

The certificate of *Licentiate of Instruction* is granted in accordance with the law of the State of Arkansas, which reads:

"That the diploma from the teachers' training department of the University of Arkansas shall be equivalent to a teacher's professional license, which shall entitle the holder to teach in any public school in the State of Arkansas for a period of six years from and after the date of issue and at the expiration of said period such diploma may be converted into a life certificate, provided that the character of the work done by the holder thereof, and his or her moral character, shall meet with the approval of the State Superintendent of Public Instruction of the State of Arkansas."

This certificate is granted to students in the School of Education, and to students in the College of Arts and Sciences who take their major in Education, upon completion of the following courses:

### *Freshman Year*

English 1, six hours; Education 1a and 20b, six hours; Education 22a and 23b, four hours; Military Science and Tactics, two hours, or Physical Education, two hours; elective fourteen hours, to be chosen from the following subjects unrestrictedly open to freshmen: Biology 1, 2, or 5; Chemistry 1 and 11; French 1; Geology 1; German 1; Greek 1 or 7; History 1 or 2; Italian 1; Latin A or 1; Mathematics 1, 2, or 3; Physics 1 or 5; Spanish 1.

### *Sophomore Year*

Education 24, eight hours; Education (elective), six hours; Military Science and Tactics, two hours, or Physical Education, two hours; elective, sixteen hours.

The choice of electives will depend to a great extent upon the subject which the candidate expects to teach and will therefore be subject to the approval of the head of the department concerned. A description of the courses required for a departmental recommendation will be found under the departmental statements.

The certificate of *Licentiate of Instruction in Home Economics* is granted upon completion of the following course:



*Freshman Year*

English 1, six hours; Education 1a and 20b, six hours; Education 22a and 23b, four hours; Chemistry 1, eight hours; Home Economics 30, six hours; Physical Education, two hours.

*Sophomore Year*

Home Economics 2 (Education 24), eight hours; Home Economics 1, six hours; Home Economics 10, six hours; Home Economics 20, six hours; Physical Education, two hours; Home Economics, elective, four hours

## BUILDINGS AND EQUIPMENT

Peabody Hall, the newest and most modern building on the campus, is used exclusively by the School of Education. It contains about thirty rooms planned and equipped especially for adaptation to the work of training teachers, including a manual training shop, home economics laboratory, a large assembly room, quarters for the training school, and a large and well-lighted reading room, supplied with professional books and magazines.

Ample provision has been made for the training school for teachers. Rooms are provided where children doing work of both elementary and high school character are taught. Any pupil residing in the state of Arkansas is eligible for admission to the University Training High School, providing that he has exhausted the school privileges of his home community. Such pupils must be at least fifteen years of age and of good moral character.

## DEPARTMENTAL STATEMENTS

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SYMBOLS

The suffix *a* following the numeral indicates first semester courses; the suffix *b*, second semester courses. A repetition of the two (e. g. 7a, 7b) indicates courses offered either semester. A combination of the two (e. g. 7ab) indicates year courses in which credit will be allowed for one semester's work; in courses not so designated the second semester must be completed before credit will be allowed for the first.

## CREDIT HOURS

The number of credit hours allowed in each course is identical with the number of hours of lecture or recitation hours per week through the semester; in laboratory, shop, or field work two to three hours is considered as equivalent to one hour of lecture or recitation. Elementary courses in science and foreign languages meet five hours per week with four hours credit, the ground covered being about equal to that usually covered in a four-hour course.

## EDUCATION

PROFESSOR JEWELL, PROFESSOR TORREYSON, ASSISTANT PROFESSOR  
GRANT, ASSISTANT PROFESSOR JORDAN, MRS. SIMPSON,  
MISS JENKS

*Requirements for a Major in Education*, thirty-two credit hours, including courses 1a, 20b, 22a, 23b, and 24.

Course 1a should be taken as a preparation for all other courses in the department. Students preparing to teach should have in addition courses 3b, 6b or 7a, 8a, 21a, and 27a. No student will be recommended for a teaching position in a high school who has not completed course 8a. No student will be recommended for a position in school supervision who has not had course 27a. Students preparing for the ministry should complete courses 7b and 10b, and 6a and 8a if possible. Students preparing for the study of law should take courses 7b and 30. Students preparing for the study of medicine should have at least course 9b.

## COURSES

No.	Title	Credits	Prerequisites
1a, 1b	General Psychology .....	3	None
2a	Advanced Psychology .....	3	†
3b	Educational Psychology .....	2	1a or 2a
•6b	Genetic Psychology .....	3	1a or 2a
•7b	Social Psychology .....	3	1a or 2a
•8a	Psychology of Adolescence.....	3	1a or 2a
•9a	Abnormal Psychology .....	3	1a or 2a
•10b	Psychology of Religion.....	3	1a or 2a
•11a	Psychology of High School Subjects.....	3	1a or 2a, 3b
20b	History of Education .....	3	None
•21a	Philosophy of Education.....	3	1a or 2a, 20b
22a	The Teaching Process .....	2	22a, 23b
23b	Observation and the Curriculum .....	2	None
24	Practice Teaching .....	8	22a
241a, 241b	Advanced Teaching .....	4	1a or 2a, 20b
25a	The Modern High School.....	2	22a, 23b
26	The Elementary School.....	4	22a, 23b
•27a	School Management .....	3	20b
271b	Rural School Management .....	3	None
•28b	Comparative School Systems .....	3	20b
•29a, 29b	School Hygiene .....	3	None
•30a	Logic .....	2	1a or 2a
•30b	Ethics .....	2	1a or 2a
40b	Vocational Guidance for Girls.....	2	None

†See statement.

•See page 54.

1a or 1b. GENERAL PSYCHOLOGY.—This course is a prerequisite to entrance into the School of Education of every state university, is an unvarying essential in the preparation of a teacher, and its content is necessary to success in all public life. Only the simpler aspects of mental life are dealt with. The student will not only be introduced to the field of general psychology, but will be helped to ground himself in the fundamentals of the subject and to acquire a right attitude toward human behavior in general. Lectures and recitations, three hours per week. M. W. F. 1, 2, 3.

PROFESSOR JEWELL.

ASSISTANT PROFESSOR JORDAN.

2a. ADVANCED PSYCHOLOGY.—This course is intended to serve either as a part of a liberal education or as a preparation for the study of education, law, or medicine. The subject is pursued as a science. The general principles of the thought process are emphasized. Offered especially for students bringing credit in psychology from the high school. Lectures and recitations three hours per week. M. W. F. 7.

ASSISTANT PROFESSOR JORDAN.

3b. EDUCATIONAL PSYCHOLOGY.—The following topics of vital importance to the teacher are considered: sources of interest, instincts, habit, moral training, memory, thinking, attention, imagination, and "transfer of training." Recommended to students who are candidates for a teacher's certificate. Lectures and recitations two hours per week. Tu. Th. 7.

ASSISTANT PROFESSOR JORDAN.

6b. GENETIC PSYCHOLOGY.—An intensive study of the development of the mind; the arguments for and against the recapitulation theory; a consideration of child psychology leading into the psychology of adolescence. A careful interpretation is made, in stating the principles of child psychology, of hereditary and environmental influences in their bearing upon education in the home and the school. Lectures and recitations three hours per week. M. W. F. 1.

PROFESSOR JEWELL.

7b. SOCIAL PSYCHOLOGY.—This course will give an insight into present social problems by showing how consciousness has been developed in home, school, neighborhood, and society. A study is made of public opinion, custom, imitation, psychology of leadership, conflict, discussion, compromise, mob mind, social will, communication and the crowd. Lectures and recitations three hours per week. M. W. F. 7.

ASSISTANT PROFESSOR JORDAN.

8a. PSYCHOLOGY OF ADOLESCENCE.—This is a study of the important physical, mental, and moral changes which are natural to adolescence, and will be of special interest to all who have to deal with boys and girls of high school age. Much attention will be paid to laying the foundation for the pedagogy of secondary instruction. Lectures and recitations three hours per week. (*Not offered in 1916-17.*)

9a. ABNORMAL PSYCHOLOGY.—A treatment of the psychological conditions and mental phenomena of sleep, dreams, aphasia, insanity, and illusions. Lectures, discussions, and reports. Three hours per week. (*Not offered in 1916-17.*)

10b. PSYCHOLOGY OF RELIGION.—This course is presented from the standpoint of the growth of religious consciousness in the individual rather than in the race. The treatment is two-fold. After a thorough consideration of the various phases of conver-

sion, the same topics are studied again as elements of a spontaneous religious development. Lectures and recitations three hours per week. M. W. F. 7.

PROFESSOR JEWELL.

11a. PSYCHOLOGY OF HIGH SCHOOL SUBJECTS.—A treatment from a psychological point of view of the many problems that arise in the teaching of the various secondary subjects. The fundamental reasons for using different methods in different subjects are stressed. The practical side of the problems arising in administering the curriculum is emphasized. Lectures and recitations three hours per week. M. W. F. 4.

ASSISTANT PROFESSOR JORDAN.

20b. HISTORY OF EDUCATION.—Educational tendencies rather than men will be the content of this course. Stress will be laid upon the connection between educational theory and actual school work in its historical development. Lectures and recitations three hours per week. M. W. F. 1, 2, 3.

PROFESSOR JEWELL.

PROFESSOR TORREYSON.

ASSISTANT PROFESSOR JORDAN.

21a. PHILOSOPHY OF EDUCATION.—Education considered from the standpoint of (1) biology, (2) neurology, (3) psychology, (4) anthropology, and (5) sociology; representative topics; instinct heredity, habit, culture epochs, individual differences, imitation, suggestion, training and memory, imagination, emotions will, senses, motor activities and moral nature, formal discipline, educational values, social education. Lectures and recitations three hours per week. (*Not offered in 1916-17.*)

22a. THE TEACHING PROCESS.—This course deals with the scientific principles underlying teaching rather than with details of device and method. A careful study of this course should do much toward eliminating the waste of time and energy often involved in the work of the school. Lectures and recitations two hours per week. Tu. Th. 1, 2, 7.

ASSISTANT PROFESSOR GRANT.

23b. OBSERVATION AND THE CURRICULUM.—Observations and discussions of recitations in elementary and secondary school work are required. In addition, considerable attention will be given

to working out a suitable course of study. Lectures and recitations two hours per week. Tu. Th. 1, 2, 7.

ASSISTANT PROFESSOR GRANT.

24. PRACTICE TEACHING.—Daily teaching for one hour in the Training School in practical application of the principles of instruction. Teachers' meeting one hour a week. Daily and M. 8.

ASSISTANT PROFESSOR GRANT.

MRS. SIMPSON.

MISS JENKS.

241a, 241b. ADVANCED TEACHING.—An additional semester of practice teaching, offered for those advanced students who desire to gain greater proficiency in the technique of class room procedure and management. This course should not be elected without the advice of the head of the department.

ASSISTANT PROFESSOR GRANT.

25a. THE MODERN HIGH SCHOOL.—The high school; its functions; organization, management, and equipment; the principal; the teacher; the pupil; the class exercise; social life; the high school and the community; present problems. Text-book, lectures, and references. Offered for prospective high school teachers. Two hours per week. Tu. Th. 7.

PROFESSOR TORREYSON.

ASSISTANT PROFESSOR JORDAN.

26. THE ELEMENTARY SCHOOL.—Topics similar to those treated in the preceding course will be discussed in their relation to the elementary school. Text-book, lectures, and references, two hours per week. Offered for prospective elementary school teachers. Tu. Th. 4.

ASSISTANT PROFESSOR GRANT.

MRS. SIMPSON.

27a. SCHOOL MANAGEMENT.—A study of the qualifications of the teacher, grading and promotion, recitation, discipline, study and preparation, school incentive, the school and the community. Offered for prospective grade school teachers. Text-book, lectures, and references, three hours per week. M. W. F. 7.

PROFESSOR JEWELL.

271b. RURAL SCHOOL MANAGEMENT.—This course is designed to make both the aim and the methods of conducting a rural school very definite. It is designed especially for those rural teachers who have had little opportunity to see better schools than their own. The enrichment of the life of the country child will be



kept in mind, and topics, such as plays and games, study program, agriculture in the school, and the problems relating especially to the rural school, will be considered. Text-book, lectures, and references, three hours per week. (*Not offered in 1916-17.*)

28b. COMPARATIVE SCHOOL SYSTEMS.—A study of the outstanding features of the school systems of France, Germany, England, and the United States, appealing especially to those interested in a better supervision of the schools. These countries are seeking efficiency in distinctly different ways and are attempting to develop different traits in their citizens. Text-book, lectures, and references, three hours per week. (*Not offered in 1916-17.*)

29a, 29b. SCHOOL HYGIENE.—Problems of school hygiene, including heating, lighting, and ventilating, school diseases and medical inspection of schools, hygiene of various school activities. Text-book, lectures, and references, three hours per week.

PROFESSOR JEWELL.

30a. LOGIC.—The application of logic to the practical problems of everyday life; a careful study of inductive and deductive reasoning, with special reference to argument and debate; designed to give a foundation for future philosophical study. Recommended to students who are preparing for a law course. Lectures and recitations two hours per week. Tu. Th. 1.

ASSISTANT PROFESSOR JORDAN.

30b. ETHICS—After some attention to the growth of ethics in history, this course will confine itself largely to helping the student acquire better methods of estimating and controlling conduct. Studies will be made of the moral problems that have confronted people from primitive times to the present, and of comparisons between individual and group morality. Recommended to students who are preparing for a law course. Lectures and recitations two hours per week. Tu. Th. 1.

ASSISTANT PROFESSOR JORDAN.

40b. VOCATIONAL GUIDANCE FOR GIRLS.—A study of woman's work in the world in order to enable girls to discover and develop their powers for service and to help them to make the most of their abilities and opportunities. This course should enable young teachers to help the boys and girls with whom they work to make an intelligent choice of their life work. Two hours per week. Tu. Th. 4.

MRS. SIMPSON.

## COLLEGE OF ENGINEERING

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The purpose of the courses in this college is to prepare young men for the profession of engineering. The value of the training that is acquired in a university course is recognized by railway officials, manufacturers, and municipal, state, and federal authorities. The demand in industrial and engineering fields throughout the country is for college graduates.

The graduates of the College of Engineering of the University of Arkansas are scattered over the entire world, occupying positions of trust in foreign lands, in the service of the United States government, in large manufacturies, and in state and municipal service, or building for themselves reputations as professional engineers.

### ADMISSION

For a detailed statement of the entrance requirements and a description of the subjects accepted for entrance, see page 23.

### COURSES OF STUDY

The College of Engineering offers through its various departments four year courses leading to the degrees of *Bachelor of Chemical Engineering* (B. Ch. E.), *Bachelor of Civil Engineering* (B. C. E.), *Bachelor of Civil Engineering in Highways* (B. C. E. in Highways), *Bachelor of Electrical Engineering* (B. E. E.), *Bachelor of Mechanical Engineering* (B. M. E.), and *Bachelor of Mining Engineering* (B. Mi. E.); graduate and professional courses leading to the degree of *Chemical Engineer* (Ch. E.), *Civil Engineer* (C. E.), *Electrical Engineer* (E. E.), and *Mechanical Engineer* (M. E.); and special two-year courses in civil, electrical, and mechanical engineering leading to a certificate.

*COURSE IN CHEMICAL ENGINEERING LEADING TO  
THE DEGREE OF BACHELOR OF CHEMICAL  
ENGINEERING*

*Freshman Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Mathematics 1a .....	3	Mathematics 1b .....	3
Mathematics 2a .....	3	Mathematics 2b .....	3
English 1 .....	3	English 1 .....	3
Physics 1 .....	3	Physics 1 .....	3
Chemistry 1 and 1l.....	3	Chemistry 1 and 1l.....	3
Mechanical Engineering 10.....	2	Mechanical Engineering 10.....	2
Military Science and Tactics.....	1	Military Science and Tactics.....	1
	<hr/> 18		<hr/> 18

*Sophomore Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Mathematics 4a .....	3	Mathematics 4b .....	3
Mathematics 7 .....	3	Mathematics 7 .....	3
Chemistry 5a .....	3	Chemistry 6b .....	3
Chemistry 2 .....	3	Chemistry 2 .....	3
German 1 or Physics 2.....	3	German 1 or Physics 2.....	3
Mechanical Engineering 2-3.....	2	Mechanical Engineering 2-3.....	2
Military Science and Tactics.....	1	Military Science and Tactics.....	1
	<hr/> 18		<hr/> 18

*Junior Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Chemistry 4.....	3	Chemistry 4 .....	3
Chemistry 7a.....	3	Chemistry 8b.....	3
Chemistry 11.....	2	Chemistry 11.....	2
Mechanical Engineering 14.....	3	Mechanical Engineering 14.....	3
Mechanical Engineering 22a.....	4	Mechanical Engineering 22b.....	4
Elective .....	2	Elective .....	2
	<hr/> 17		<hr/> 17

*Senior Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Electrical Engineering 1.....	3	Chemistry 17b .....	3
Electrical Engineering 19.....	2	Electrical Engineering 1.....	3
Mechanical Engineering 17.....	2	Electrical Engineering 19.....	2
Mechanical Engineering 24a.....	3	Mechanical Engineering 17.....	2
Chemistry 18.....	1	Mechanical Engineering 24b.....	3
Elective .....	4	Chemistry 18.....	1
	<hr/> 16	Elective .....	4
			<hr/> 18

*COURSE IN CIVIL ENGINEERING LEADING TO THE  
DEGREE OF BACHELOR OF CIVIL ENGINEERING*

*Freshman Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Mathematics 1a .....	3	Mathematics 1b .....	3
Mathematics 2a .....	3	Mathematics 2b .....	3
English 1 .....	3	English 1 .....	3
Physics 1 .....	3	Physics 1 .....	3
Mechanical Engineering 10 .....	2	Mechanical Engineering 10 .....	2
Mechanical Engineering 11 .....	2	Mechanical Engineering 11 .....	2
Military Science and Tactics .....	1	Military Science and Tactics .....	1
<hr/>	17	<hr/>	17

*Sophomore Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Mathematics 4a .....	3	Mathematics 4b .....	3
Mathematics 7 .....	3	Mathematics 7 .....	3
Civil Engineering 6-7 .....	3	Civil Engineering 6-7 .....	3
Civil Engineering 3a .....	2	Civil Engineering 3b .....	2
Civil Engineering 5a .....	2	Civil Engineering 4b .....	2
Chemistry 1 .....	3	Chemistry 1 .....	3
Military Science and Tactics .....	1	Military Science and Tactics .....	1
<hr/>	17	<hr/>	17

*Junior Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Civil Engineering 14 .....	5	Civil Engineering 14 .....	5
Civil Engineering 10 .....	2	Civil Engineering 10 .....	2
Civil Engineering 11 .....	2	Civil Engineering 11 .....	2
Civil Engineering 12 .....	2	Civil Engineering 13 .....	2
Geology 5b .....	2	Mechanical Engineering 27b .....	2
Elective .....	4	Elective .....	4
<hr/>	17	<hr/>	17

*Senior Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Civil Engineering 16 .....	4	Civil Engineering 16 .....	3
Civil Engineering 17 .....	2	Civil Engineering 17 .....	2
Civil Engineering 18a .....	2	Civil Engineering 18b .....	3
Civil Engineering 20a .....	2	Civil Engineering 20b .....	2
Civil Engineering 15a .....	2	Civil Engineering 25 .....	2
Civil Engineering 19a .....	2	Elective .....	3
Elective .....	3		
<hr/>	17	<hr/>	16

# COURSE IN ELECTRICAL ENGINEERING LEADING TO THE DEGREE OF BACHELOR OF ELECTRICAL ENGINEERING

## Freshman Year

First Semester	Credit Hours	Second Semester	Credit Hours
Mathematics 1a .....	3	Mathematics 1b .....	3
Mathematics 2a .....	3	Mathematics 2b .....	3
English 1 .....	3	English 1 .....	3
Physics 1 .....	3	Physics 1 .....	3
Mechanical Engineering 2-5 .....	2	Mechanical Engineering 2-5 .....	2
Mechanical Engineering 10 .....	2	Mechanical Engineering 10 .....	2
Military Science and Tactics .....	1	Military Science and Tactics .....	1
	<hr/> 17		<hr/> 17

## Sophomore Year

First Semester	Credit Hours	Second Semester	Credit Hours
Mathematics 4a .....	3	Mathematics 4b .....	3
Mathematics 7 .....	3	Mathematics 7 .....	3
Physics 2 .....	3	Physics 2 .....	3
Physics 3 .....	1	Physics 3 .....	1
Chemistry 1 .....	3	Chemistry 1 .....	3
Electrical Engineering 2 .....	2	Electrical Engineering 2 .....	2
Electrical Engineering 11 or 20 .....	2	Electrical Engineering 11 or 20 .....	2
Military Science and Tactics .....	1	Military Science and Tactics .....	1
	<hr/> 18		<hr/> 18

## Junior Year

First Semester	Credit Hours	Second Semester	Credit Hours
English 13, or German, French, or Spanish .....	3	English 13, or German, French, or Spanish .....	3
Mechanical Engineering 24a .....	3	Mechanical Engineering .....	3
Physics 4, Civil Engineering 14, or Mechanical Engineering 22a .....	4	Physics 4, Civil Engineering 14, or Mechanical Engineering 22b .....	4
Electrical Engineering 7 .....	3	Electrical Engineering 7 .....	3
Electrical Engineering 6 .....	2	Electrical Engineering 5 .....	2
Electrical Engineering 3 .....	2	Electrical Engineering 3 .....	2
Elective .....	1	Elective .....	1
	<hr/> 18		<hr/> 18

## Senior Year

First Semester	Credit Hours	Second Semester	Credit Hours
Electrical Engineering 8a .....	3	Electrical Engineering 9b .....	3
Electrical Engineering 6 .....	2	Electrical Engineering 6 .....	2
Electrical Engineering 4 .....	2	Electrical Engineering 4 .....	2
Mechanical Engineering 17 .....	2	Mechanical Engineering 17 .....	2
*Elective:		Electrical Engineering 25 .....	2
Electrical Engineering 13a .....	2	*Elective:	
Electrical Engineering 15a .....	2	Electrical Engineering 14b .....	2
Electrical Engineering 12a .....	1	Electrical Engineering 16b .....	2
Electrical Engineering 18 .....	2	Electrical Engineering 22b .....	3
Economics 2 .....	3	Electrical Engineering 4b .....	2
		Electrical Engineering 10b .....	2
		Civil Engineering 8b .....	3

\*Enough elective work must be chosen to make the total credit hours sixteen.

*COURSE IN HIGHWAY ENGINEERING LEADING TO  
THE DEGREE OF BACHELOR OF CIVIL EN-  
GINEERING IN HIGHWAYS*

*Freshman Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Mathematics 1a .....	3	Mathematics 1b .....	3
Mathematics 2a .....	3	Mathematics 2b .....	3
English 1 .....	3	English 1 .....	3
Chemistry 1 .....	3	Chemistry 1 .....	3
Civil Engineering 2 .....	2	Civil Engineering 2 .....	2
Economics 1 .....	3	Economics 1 .....	3
Military Science and Tactics .....	1	Military Science and Tactics .....	1
	<hr/> 18		<hr/> 18

*Sophomore Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Mathematics 4a .....	3	Mathematics 4b .....	3
Mathematics 7 .....	3	Mathematics 7 .....	3
Civil Engineering 6-7 .....	3	Civil Engineering .....	3
Civil Engineering 3a .....	2	Chemistry 5b .....	2
Civil Engineering 5a .....	2	Chemistry 6b .....	2
Physics 1 .....	3	Physics 1 .....	3
Military Science and Tactics .....	1	Military Science and Tactics .....	1
	<hr/> 17		<hr/> 17

*Junior Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Civil Engineering 14 .....	5	Civil Engineering 14 .....	5
Civil Engineering 10a .....	2	Mechanical Engineering 27b .....	2
Civil Engineering 11a .....	2	Civil Engineering 22b .....	4
Civil Engineering 13 .....	2	Civil Engineering 13 .....	2
Mechanical Engineering 24 .....	3	Mechanical Engineering 24 .....	3
Geology 5b .....	2		
	<hr/> 16		<hr/> 16

*Senior Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Civil Engineering 16 .....	4	Civil Engineering 23b .....	4
Civil Engineering 20a .....	2	Civil Engineering 24b .....	2
Civil Engineering 15a .....	2	Economics 9b .....	3
Civil Engineering 19a .....	2	Chemistry 8b .....	3
Geology 1a .....	3	Geology 1b .....	3
Civil Engineering 17 .....	2	Civil Engineering 25 .....	1
Civil Engineering 25 .....	1		
	<hr/> 16		<hr/> 16



**COURSE IN MECHANICAL ENGINEERING LEADING  
TO THE DEGREE OF BACHELOR OF MECHANICAL  
ENGINEERING**

*Freshman Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Mathematics 1a .....	3	Mathematics 1b .....	3
Mathematics 2a .....	3	Mathematics 2b .....	3
English 1 .....	3	English 1 .....	3
Physics 1 .....	3	Physics 1 .....	3
Mechanical Engineering 2-3 .....	2	Mechanical Engineering 2-3 .....	2
Mechanical Engineering 10 .....	2	Mechanical Engineering 10 .....	2
Military Science and Tactics .....	1	Military Science and Tactics .....	1
	<hr/> 17		<hr/> 17

*Sophomore Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Mathematics 4a .....	3	Mathematics 4b .....	3
Mathematics 7 .....	3	Mathematics 7 .....	3
Chemistry 1 .....	3	Chemistry 1 .....	3
Civil Engineering 3a .....	2	Civil Engineering 3b .....	2
Mechanical Engineering 14 .....	3	Mechanical Engineering 14 .....	3
Mechanical Engineering 4-5 .....	2	Mechanical Engineering 4-5 .....	2
Military Science and Tactics .....	1	Military Science and Tactics .....	1
	<hr/> 17		<hr/> 17

*Junior Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Mechanical Engineering 22a or Civil Engineering 14 .....	4	Mechanical Engineering 22b or Civil Engineering 14 .....	4
Mechanical Engineering 24a .....	3	Mechanical Engineering 24b .....	3
Mechanical Engineering 17 .....	2	Mechanical Engineering 17 .....	2
Mechanical Engineering 12a .....	2	Mechanical Engineering 12b .....	4
Mechanical Engineering 7a .....	2	Mechanical Engineering 27b .....	2
Elective .....	4	Elective .....	2
	<hr/> 17		<hr/> 17

*Senior Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Electrical Engineering 1 .....	3	Electrical Engineering 1 .....	3
Electrical Engineering 19 .....	2	Electrical Engineering 19 .....	2
Mechanical Engineering 26 .....	4	Mechanical Engineering 26 .....	4
Mechanical Engineering 18 .....	2	Mechanical Engineering 18 .....	2
Mechanical Engineering 28a .....	2	Mechanical Engineering 25 .....	2
Elective .....	3	Elective .....	3
	<hr/> 16		<hr/> 16

*COURSE IN MINING ENGINEERING LEADING TO THE  
DEGREE OF BACHELOR OF MINING  
ENGINEERING*

*Freshman Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Mathematics 1a .....	3	Mathematics 1b .....	3
Mathematics 2a .....	3	Mathematics 2b .....	3
English 1 .....	3	English 1 .....	3
Physics 1 .....	3	Physics 1 .....	3
Mechanical Engineering 2-5 .....	2	Mechanical Engineering 2-5 .....	2
Mechanical Engineering 10 .....	2	Mechanical Engineering 10 .....	2
Military Science and Tactics .....	1	Military Science and Tactics .....	1
	17		17

*Sophomore Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Mathematics 4a .....	3	Mathematics 4b .....	3
Mathematics 7 .....	3	Mathematics 7 .....	3
Chemistry 1 .....	3	Chemistry 1 .....	3
Geology 1a .....	3	Geology 1b .....	3
Geology 5a .....	3	Geology 5b .....	3
French, German, or Spanish .....	3	French, German, or Spanish .....	3
Military Science and Tactics .....	1	Military Science and Tactics .....	1
	19		19

*Junior Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Geology 2 .....	3	Geology 2 .....	3
Geology 6a .....	3	Mining 1b .....	3
Chemistry 5a .....	3	Chemistry 6b .....	3
Civil Engineering 6-7 .....	3	Civil Engineering 6-7 .....	3
Electrical Engineering 1 .....	3	Electrical Engineering 1 .....	3
French, German, or Spanish .....	3	French, German, or Spanish .....	3
	18		18

*Senior Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Geology 7 .....	3	Geology 7 .....	3
Mining 2a .....	3	Metallurgy 1b .....	2
Civil Engineering 15a .....	2	Metallurgy 2b .....	1
Civil Engineering 3a .....	2	Civil Engineering 3b .....	2
Chemistry 7b .....	2	Mechanical Engineering 27b .....	2
French, German, or Spanish .....	3	French, German, or Spanish .....	3
Elective .....	3	Elective .....	3
	18		16

## REQUIREMENTS FOR THE GRADUATE AND PROFESSIONAL DEGREES IN ENGINEERING

The graduate degrees of *Chemical Engineer*, *Civil Engineer*, *Electrical Engineer*, and *Mechanical Engineer* are granted to students who have completed the required undergraduate course and, in addition, at least one year of graduate work in residence. This graduate work must include one major subject, based on the undergraduate course pursued, and two minor subjects, one or both of which must be closely related to the major subject. The candidate must complete not less than thirty semester credit hours in approved courses and must submit an acceptable thesis in his major subject presenting the results of original research.

The professional degrees of *Chemical Engineer*, *Civil Engineer*, *Electrical Engineer*, and *Mechanical Engineer* are conferred upon graduates of the University of Arkansas who have been in successful practice of their profession for at least three years. Each candidate for a professional degree must present a statement of his record since graduation accompanied by an acceptable thesis presenting the results of original research.

## TRADE COURSES

Short courses, designed to equip young men for some specific trade within the field of engineering are offered in the departments of civil, electrical, and mechanical engineering. For admission only a fair common school education is required. Certificates are granted for the completion of the regular two-year course.

A special bulletin, giving a fuller description of these courses, will be sent upon request. Address, The Registrar, University of Arkansas, Fayetteville.

## BUILDINGS AND EQUIPMENT

*Engineering Hall*, erected in 1904, lies a short distance to the south of University Hall. The first story is built of native sand stone and the upper two stories are of brick trimmed with limestone. The building is 150 by 58 feet, and contains the offices,

recitation rooms, drawing rooms, and testing laboratories of the civil, electrical, and mechanical engineering departments.

*Mechanical Hall* is built of brick, is 40 feet wide and 155 feet in length, with an ell 35 by 40 feet, and contains the machine shop, wood shop, foundry, and forge shop. The shops will accommodate about seventy-five students at one time. Adjoining on the east is a boiler room 54 by 88 feet.

*The civil engineering instrumental laboratory* is located on the first floor of Engineering Hall, and is provided with all the necessary instruments for work in land, railroad, and city surveying and office work. The equipment of field instruments has been so selected as to afford students the opportunity of becoming familiar with the instruments of the different manufacturers. Among the instruments there are a number of engineers' transits and Y levels, theodolites, transit and solar attachment, compasses, hand levels, standard and ordinary steel tapes, plane tables, sextant, aneroid and mercurial barometers, etc. An equipment for practical astronomy has been added, consisting of a large altazimuth, reading to seconds by levels and micrometers; a sidereal clock with break-circuit attachment; and a chronograph reading to tenths of seconds.

*The experimental laboratory* for testing materials of construction and for work in hydraulics is situated in the northwest corner of the basement of Engineering Hall, in a well lighted room having a floor space of 2,450 square feet. The equipment for testing the quality and strength of cements and mortars includes one 2,000-pound tension machine, one 1,000-pound automatic machine, brass molds for tension compression, and transverse test pieces, storage tanks and apparatus for testing fineness, specific gravity, and activity, and for accelerated tests. The equipment for testing steel includes a 4,000-pound tension machine and a 5,000-pound transverse machine for tests on bars, and a Fremont impact testing machine. The equipment for experiments in hydraulics consists of a Pelton water wheel, an hydraulic engine, water meters, weirs, and other apparatus. The laboratory is also well equipped for making blue and brown prints of any size up to 36 by 64 inches.

New equipment for testing materials for roads and pavements has recently been added. This equipment is modeled after that used in the laboratory of the Office of Public Roads at Washing-

ton, D. C., and includes an impact testing machine, a cementation impact testing machine, a diamond core drill and press, a briquette machine, a ball grinding machine, a rattler for paving brick, an abrasion machine for broken stone, and other apparatus.

The *electrical engineering dynamo laboratory*, situated in the east end of the basement of Engineering Hall, affords excellent facilities for experimental work with practical machinery. The power is supplied by a 30-horsepower, vertical type, double cylinder gasoline engine and a 20 K. W. induction motor. A 60-cell, 300-ampere-hour storage battery supplies current for experiments in which absolutely steady power is desired. There are direct current dynamos and motors of the constant current and constant potential types, transformers, converters, synchronous and induction motors, with a liberal supply of measuring instruments for use with the various machines. Single, two, and three-phase alternators supply current at various voltages and frequencies.

The *senior laboratory* is situated on the first floor of Engineering Hall, and is supplied with direct current at 110, 220, and 500 volts, and alternating current, single phase, at 50, 110, or 220 volts, and 60 cycles; two phase, 60 cycle at 110 or 220 volts; three phase, at 110 or 220 volts, with a frequency of 60 to 113 cycles a second. A high tension testing transformer supplies current at any voltage up to 120,000 for testing of insulators, while standard cells, a Kelvin balance, and a potentiometer furnish means for calibrating the laboratory measuring instruments.

Students are also permitted to inspect the plant of the Fayetteville Electric Light and Power Company, take measurements and make tests on it. Its primary mains supply the electrical laboratory with alternating current at 60 cycles and 2,000 volts.

The *photometric laboratory*, which also serves as a photographic and X-ray dark room, is supplied with a standard photometer bar, Lummer-Brohun screen, and amyl acetate standard lamp.

The *mechanical engineering laboratory* contains the following machinery: one 35-horsepower compound automatic steam engine, one Hornsby-Akroyd oil engine, one Kerr steam turbine,

one slide valve steam engine, one 10-horse power Weber gasoline engine, three small Cardinal gasoline engines made in the University shops, one 35-horse power Westinghouse compound steam engine, one 50-horse power Wheeler condenser with air, water, and circulating pumps, one pulsometer steam pump, and one 60,000-pound Rheile testing machine for testing materials such as wood, steel, and cast iron in tension and compression. This machine is also equipped for testing large beams of steel, concrete, or timber.

The laboratory is well provided with apparatus for experimental work, including a Mahler bomb calorimeter for testing fuels, an Orsat apparatus for flue gas analysis, a Junker calorimeter, an Olsen oil testing machine, a viscosimeter, a flash point tester, a Pitot meter, an anemometer, pressure gauges, measuring tanks, water meters, and scales.

The steam boilers used for heating the University buildings are arranged so as to be available for experimental work. The Corliss shop engine, the feed water pumps, and the Westinghouse air compressor are also used for purposes of instruction.

By special arrangements with the Fayetteville Water Company, students are allowed to run tests in this plant.

The *machine shop* contains a Corliss engine, which runs the machinery in the whole building, a large iron planer, a shaper, several lathes of different sizes and makes, a drill press, grinding machines, a milling machine, and a good supply of hand tools, benches, and materials. The *foundry* contains one Colleau cupola with a capacity of one and one-half tons of iron an hour, one brass furnace of one hundred and fifty pounds capacity, Buffalo pressure blower, and core oven. The *wood shop* contains one buzz planer, one large cylinder planer, a circular saw, a band saw, five smaller lathes, one 18-inch pattern maker's lathe, one double column shaper, and twenty-six benches, each equipped with a complete set of carpenter's tools. The *forge* shop contains eight Buffalo forges with down draft, which takes the smoke away through an underground pipe, thus avoiding the smoke and dirt of the ordinary blacksmith shop. It also contains a shearing and punching machine, eight anvils of different weights, and all the necessary blacksmith tools for the eight forges. The *boiler room* contains three fire-tube boilers, and three water-tube boilers, besides feed pumps, injector, and measuring tanks.



## DEPARTMENTAL STATEMENTS

## SYMBOLS

The suffix *a* following the numeral indicates first semester courses; the suffix *b*, second semester courses. A repetition of the two (e. g. 7a, 7b) indicates courses offered either semester. A combination of the two (e. g. 7ab) indicates year courses in which credit will be allowed for one semester's work; in courses not so designated the second semester must be completed before credit will be allowed for the first.

## CREDIT HOURS

The number of credit hours allowed in each course is identical with the number of hours of lecture or recitation hours per week through the semester; in laboratory, shop, or field work two to three hours is considered as equivalent to one hour of lecture or recitation.

## CIVIL ENGINEERING

PROFESSOR KNOCH, ASSOCIATE PROFESSOR KNOTT, MR. WHITMAN

The courses in civil and highway engineering are outlined on pages 115 and 117.

The courses in civil engineering include theoretical instruction accompanied by illustrations and as much of engineering practice as possible. The courses will give the student a knowledge of fundamental principles that will enable him to enter intelligently upon professional practice.

The special technical studies which are offered may be grouped under the heads of surveying, applied mechanics, road and railroad engineering, hydraulic engineering, bridge engineering, and sanitary engineering.

The work in surveying extends over three years. It embraces land surveying, leveling and United States public land surveys, during the sophomore year; topography, railroad reconnoissance and location, during the junior year; triangulation and geodesy, during the senior year. Much time is devoted to practice in the field and drafting room, this work being carried on parallel with the class-room work. Each year a party of engineering students goes into camp one week for practice in surveying and locating railway lines.

## HIGHWAY ENGINEERING

In recent years many problems have arisen in connection with the construction and maintenance of highways, creating a demand for men who have been trained for this particular branch of engineering. The course in highway engineering has been arranged to aid in training engineers for this line of work.

The work for the first two years of this course is practically identical with that of civil engineering. In the last two years subjects especially related to highway engineering have been introduced, and other subjects which are considered of less importance in highway work have been dropped from the regular course in civil engineering.

A well equipped laboratory has been provided for making all the standard tests in accordance with the practice of the United State Office of Public Roads.

All students are required to spend the vacation between their junior and senior years with the State Highway Engineer. Actual expenses will be allowed for this work.

## COURSES

No.	Title	Credits	Prerequisites
2	Drawing and Lettering .....	4	None
3	Descriptive Geometry .....	4	M. E. 10
4b	Architectural Drawing .....	2	3a
4a	Highways .....	2	None
6	Surveying .....	4	Math. 2a
7	Surveying Field Practice .....	2	†
8b	Surveying .....	3	Math. 2a
9b	Surveying .....	1	Math. 2a
10	Railroad Engineering .....	4	6, 7, Math. 7
11	Railroad Engineering Field Practice .....	4	
12	Railroad Survey .....	4	
13	Drawing .....	4	
14	Structural Mechanics .....	10	Math. 7
15a	Masonry Construction .....	2	14
16	Roofs and Bridges .....	7	14
17	Technical Drawing .....	4	14, 16
18a	Sanitary Engineering .....	2	M. E. 27b
18b	Waterworks .....	3	M. E. 27b
19a	Engineering Laboratory .....	2	14, 15a
20a	Reinforced Concrete .....	2	14
20b	Field Practice .....	2	10, 11
21	Contracts and Specifications .....	6	†
22b	Highway Engineering .....	4	5, 6, 7, 10a, 11a
23b	Highway Bridges and Culverts .....	4	13, 14, 16
24b	Highway Engineering Laboratory .....	2	5, 14
25	Thesis .....	2	†

†See statement.

2. **DRAWING AND LETTERING.**—Selection and care of instruments, conventional representation of materials; drawing and tracing plans, profiles, and maps; free-hand lettering; pen and colored topography. Six hours per week.

ASSOCIATE PROFESSOR KNOTT.

MR. WHITMAN.

3. **DESCRIPTIVE GEOMETRY.**—Recitation one hour, and drawing three hours per week. Th. 1, M. 5-7.

PROFESSOR KNOCH.

MR. WHITMAN.

4b. **ARCHITECTURAL DRAWING.**—Elementary course in architecture; drawing plans and elevations of simple structures; analysis of plans. Six hours per week. Tu. W. 5-7.

MR. WHITMAN.

5a. **HIGHWAYS.**—The location, construction, and maintenance of common macadam and Telford roads; brick, stone, wood, asphalt, and bituminous pavements for city streets. Two hours per week. Tu. Th. 2.

MR. WHITMAN.

6. **SURVEYING.**—First and part of second semester. Care, use, and adjustment of instruments; use of chain, tape, compass, transit, solar attachment, level, sextant, plane-table; land surveying, contouring, laws and instructions relating to the surveys of the public domain. Two hours per week. M. W. 1.

ASSOCIATE PROFESSOR KNOTT.

MR. WHITMAN.

7. **FIELD PRACTICE.**—Exercises in land, topographical, and city surveying, to accompany course 6. Three hours per week. Th. 5-8.

MR. WHITMAN.

8b. **SURVEYING.**—Care, use, and adjustments of instruments; platting field notes. Running grade lines and simple curves for electric railways. Recitation one hour and field practice two hours per week.

ASSOCIATE PROFESSOR KNOTT.

MR. WHITMAN.

9b. **SURVEYING.**—Leveling, land surveying, and land drainage. Designed for students in the course in agriculture. Recitation

two hours, and field practice three hours per week. Tu. F. 3, W. 5-8.

MR. WHITMAN.

10. RAILROAD ENGINEERING.—Preliminary surveys and location; transition curves, yards, and turnouts; estimate of earthwork and materials used in construction; the economics of railroad location and management. Two hours per week. Tu. Th. 3.

PROFESSOR KNOCH.

11. FIELD PRACTICE.—Location of curves, turnouts, and Y's; measurements of embankments and cuts, computation of volumes. Four hours per week. F. 5-8.

PROFESSOR KNOCH.

12. RAILROAD SURVEY.—One week, twelve hours a day. Actual field practice in reconnoissance, preliminary surveys, location, and topographical survey.

13. DRAWING.—Lectures and practice. Topographical and railroad maps from actual surveys; masonry dams, structural details, and working drawings for designs. Six hours per week. M. Tu. 5-7.

ASSOCIATE PROFESSOR KNOTT.

14. STRUCTURAL MECHANICS.—A course especially designed for students in civil engineering. The theory of stresses and strains, with practical applications to the design of structures. Five hours per week. M. Tu. W. Th. F. 2.

ASSOCIATE PROFESSOR KNOTT.

15a. MASONRY CONSTRUCTION.—Use of lime and hydraulic cement mortars; stone and brick masonry; concrete; foundations on land and under water; coffer-dams, cribs, and caissons. Two hours per week. M. W. 4.

ASSOCIATE PROFESSOR KNOTT.

16. ROOFS AND BRIDGES.—Theory of computation of stresses by both analytical and graphical methods; full computations, designs and bills of materials for roof truss and railroad bridge. Four hours per week, first semester; three hours, second semester. M. Tu. W. F. 1.

PROFESSOR KNOCH.

17. TECHNICAL DRAWING.—Lectures and practice four hours per week. Right and oblique arches; drawings for computations of course 16. Tu. W. 5-7.

PROFESSOR KNOCH.

18a. **SANITARY ENGINEERING.**—Calculation and special details of construction of sewers; separate and combined systems of sewers; purification of sewage; municipal and domestic sanitation. Two hours per week. M. 3, Th. 1.

PROFESSOR KNOCH.

18b. **WATERWORKS ENGINEERING.**—A study of systems of water supply; collection, purification and distribution of water; location of waterworks, with details of construction and cost estimate; turbines and pumping engines. Three hours per week. M. W. F. 1.

PROFESSOR KNOCH.

19a. **ENGINEERING LABORATORY.**—Tests of strength and other properties of materials of construction, tensile and crushing tests of brick, stone, and cement; flow of water through pipes, elbows, valves, and measurement of water by means of weirs and meters. Four hours per week. F. 5-8.

MR. WHITMAN.

20a. **REINFORCED CONCRETE.**—Recitations, lectures, and practical problems on the theory and design of various structures in reinforced concrete. Four hours per week. Th. 5-8.

ASSOCIATE PROFESSOR KNOTT.

20b. **FIELD PRACTICE.**—Topographical survey, triangulation, precise leveling, and practical astronomy. Four hours per week. Th. 5-8.

ASSOCIATE PROFESSOR KNOTT.

21. **CONTRACTS AND SPECIFICATIONS.**—Lectures and recitations, three hours per week.

PROFESSOR KNOCH.

22b. **HIGHWAY ENGINEERING.**—Lectures and reports; road laws, economics and design of roads and pavements; taxes, bond issues, and assessments; drainage; foundations; comparisons of the different types of roads; road surveying and design. Four hours per week.

23b. **HIGHWAY BRIDGES AND CULVERTS.**—Lectures and problems in the design of highway bridges; determination of waterways; construction and maintenance of highway bridges and culverts. Four hours per week.

24b. **HIGHWAY ENGINEERING LABORATORY.**—Tests of gravel and broken stone to determine hardness, toughness, cementing power,

and resistance to abrasion; rattler tests and absorption tests for paving brick; tests of sand and clay; inspection and tests of bituminous materials. Four hours per week.

25. **THESIS.**—Each senior or graduate student who is a candidate for a degree, is required to submit the subject of his thesis not later than December 15th, and the completed thesis not later than May 10th, to a committee, consisting of the candidate's major professor and two other members appointed by the president, for its criticism and approval. All theses must be neatly typewritten on one side of plain white paper, eight by ten inches in size, leaving a one-inch margin. When drawings or diagrams are used they should be made to conform to these dimensions or some multiple of them. The first page of the thesis should contain the title, the following statement: "Thesis submitted by \_\_\_\_\_ to the faculty of the University of Arkansas in partial fulfilment of the requirements for the degree of \_\_\_\_\_", and the date. Theses submitted for bachelor degrees must be at least 2,500 words in length.

## ELECTRICAL ENGINEERING

PROFESSOR GLADSON, ADJUNCT PROFESSOR STELZNER. MR. BROWN

The course in electrical engineering is outlined on page 116.

The courses in this department seek to combine general and technical subjects in such proportions as to furnish a good foundation for the profession of electrical engineering. Sufficient theory is taught in the class-room and illustrated by laboratory experiments to give the student a knowledge of the underlying principles. Shop experience with manufacturing companies, to give the student specific practical training, is desirable. Such training should be obtained during vacations and after graduation.

### COURSES

No.	Title	Credits	Prerequisites
1ab	Electrical Engineering .....	6	Physics 1
2	Drawing .....	4	M. E. 10
3	Electrical Engineering Design .....	4	2, Physics 2
4	Electrical Engineering Design.....	4	3, 7
5	Electrical Laboratory .....	4	Physics 2
6	Electrical Laboratory .....	4	5, 7
7	Dynamo-Electric Machinery .....	6	Physics 2
8a	Theory of Alternating Currents.....	3	7



9b	Polyphase Electric Currents.....	3	8a
10b	Electric Railways .....	2	1 or 7
11	Electrical Apparatus .....	4	Physics 1
12a	Telephone Laboratory .....	2	Physics 1
13a	Power Stations .....	2	1 or 7
14b	Electrical Transmission and Distribution.....	2	1 or 7
15a	Alternating Current Motors.....	2	7 and 8a
16b	Hydro Electric Developments .....	2	7 and 8a
17	Electrical Engineering Seminar.....	2	†
18	History of Engineering.....	4	None
19	Elementary Electrical Laboratory .....	4	Physics 1
20	Illuminating Engineering.....	4	Physics 1
21	Elements of Electrical Engineering.....	†10	None
22	Contracts and Specifications.....	6	1, 19 or 7
23b	Photometry of Electric Lamps.....	2	3, 5, 7 and Physics 2
24	Inspection Trip .....	†	
25	Thesis .....	2	†

†See statement.

1ab. ELECTRICAL ENGINEERING.—A general, elementary course in dynamos, electrical machinery, motors, transformers, primary and storage batteries, electrical signals, mine haulage, and illumination. Recitations and demonstrations three hours per week. M. W. F. 3.

ADJUNCT PROFESSOR STELZNER.

2. DRAWING.—Accurate mechanical drawing from electrical machinery; wiring plans from architectural drawings; perspective, line shading, and orthographic projections. Six hours per week. Tu. Th. 5-7.

MR. BROWN.

3. ELECTRICAL ENGINEERING DESIGN.—Working drawings of electrical machinery; designs of direct current machinery; specifications and estimates. Recitations one hour and drawing three hours per week. M. 5-7.

MR. BROWN.

4. ELECTRICAL ENGINEERING DESIGN.—Designs of alternating current machinery; motors, transformers, and generators. Recitation one hour and drawing three hours per week. W. 6, Th. 5-7.

MR. BROWN.

5. ELECTRICAL LABORATORY.—An extended course in electrical and magnetic measurements; current strength, electro-motive force and resistance; use and calibration of instruments; explorations of magnetic fields; testing of direct current dynamos and motors; primary and storage batteries. Four hours per week. W. 5-8.

ADJUNCT PROFESSOR STELZNER.

6. ELECTRICAL LABORATORY.—A full experimental course in operating and testing direct and alternating current machines; transmission, storage, and transformation of electrical energy. Four hours per week. M. 5-8.

ADJUNCT PROFESSOR STELZNER.

7. DYNAMO-ELECTRIC MACHINERY.—Recitations confined chiefly to direct current apparatus, including types of motors, generators, and transformers; designs, calculations, construction, tests, and operation. Three hours per week. M. W. F. 2.

ADJUNCT PROFESSOR STELZNER.

8a. THEORY OF ALTERNATING CURRENTS.—Recitations and lectures on alternating current generators, motors, converters, measurements, theories of design, and calculations. Three hours per week. M. W. F. 1.

PROFESSOR GLADSON.

9b. POLYPHASE ELECTRIC CURRENTS.—Lectures and recitations three hours per week. M. W. F. 1.

PROFESSOR GLADSON.

10b. ELECTRIC RAILWAYS.—Lectures and recitations on the construction, equipment, and operation of different types of electric roads. Two hours per week. Tu. Th. 2.

ADJUNCT PROFESSOR STELZNER.

11. ELECTRICAL APPARATUS.—Lectures and recitations on telephony, telegraphy, signals, fire alarms, and related apparatus. Two hours per week. Tu. Th. 4.

MR. BROWN.

12a. TELEPHONE LABORATORY.—Work with telephone, telegraph, wireless telegraph and telephone, railway signals, and related apparatus. Two hours per week. F. 3-4.

MR. BROWN.

13a. POWER STATIONS.—Selection of machinery for power stations; steam, hydraulic, gas, and electric station construction, operation, and management. Two hours per week. Tu. Th. 3.

PROFESSOR GLADSON.

14b. ELECTRICAL TRANSMISSION AND DISTRIBUTION.—A study of the different methods of electrical power distribution for light, railways, or stationary power; long distance transmission. Lectures and recitations two hours per week. M. Tu. 3.

PROFESSOR GLADSON.

15a. ALTERNATING CURRENT MOTORS.—Lectures and recitations two hours per week. Tu. Th. 1.

PROFESSOR GLADSON.

16b. HYDRO-ELECTRIC DEVELOPMENTS.—A study of the methods of investigating power possibilities for flowing water, collecting data, selecting power sites, power house, transmission lines, and machinery. Lectures and recitations two hours per week. Tu. Th. 1.

PROFESSOR GLADSON.

17. ELECTRICAL ENGINEERING SEMINAR.—Students who attend and take part in at least three-fourths of the meetings of the *University of Arkansas Branch of the American Institute of Electrical Engineers* during their junior and senior years, and prepare and present an acceptable original paper on some engineering subject, will be allowed two credit hours.

18. HISTORY OF ENGINEERING.—The early development of engineering, as traced from historical records and from the remains of ancient works; the development of engineering in later periods and its growth into a separate profession; the effects on civilization, general history, and economic problems of the several inventions and other improvements which have marked the development of engineering; a study of the lives of a few famous engineers; the development of the general technical principles of engineering. Lectures and recitations two hours per week.

ADJUNCT PROFESSOR STELZNER.

19. ELEMENTARY ELECTRICAL LABORATORY.—Designed to illustrate the application of electrical machinery for power purposes and includes simple testing, operating, and care of alternating and direct current machinery. Four hours per week. Th. 5-8.

ADJUNCT PROFESSOR STELZNER.

20. ILLUMINATING ENGINEERING.—Lectures and recitations on the different methods of artificial illumination; sources; intensity and distribution of light; physiological and hygienic problems; direct and indirect lighting; reflecting surfaces; illumination and photometric calculations. Two hours per week. Tu. Th. 2.

MR. BROWN.

21. ELEMENTS OF ELECTRICAL ENGINEERING.—A general introductory course to the study of electrical engineering, designed for students in the trades course in electrical engineering. Credit

will not be allowed in this course towards a degree. Lectures and recitations five hours per week.

ADJUNCT PROFESSOR STELZNER.

22. CONTRACTS AND SPECIFICATIONS.—A study of correct forms of specifications for electrical installations, estimates of cost, forms of bids and contracts; the engineers responsibility. Three hours per week. M. Tu. W. 3.

PROFESSOR GLADSON.

23b. PHOTOMETRY OF ELECTRIC LAMPS.—Lectures, recitations, and practice on modern photometer and photometric methods, four hours per week. M. Tu. 6-7.

PROFESSOR GLADSON.

24. INSPECTION TRIP.—The senior class makes one visit of inspection each year to power houses and large electrical installations; or a week is spent in actual practice work in determining hydro-electric possibilities of some stream.

25. THESIS.—Each senior or graduate student who is a candidate for a degree, is required to submit the subject of his thesis not later than December 15th, and the completed thesis not later than May 10th, to a committee, consisting of the candidate's major professor and two other members appointed by the president, for its criticism and approval. All theses must be neatly typewritten on one side of plain white paper, eight by ten inches in size, leaving a one-inch margin. When drawings or diagrams are used they should be made to conform to these dimensions or some multiple of them. The first page of the thesis should contain the title, the following statement: "Thesis submitted by -----to the faculty of the University of Arkansas in partial fulfilment of the requirements for the degree of -----", and the date. Theses submitted for bachelor degrees must be at least 2,500 words in length.

## MECHANICAL ENGINEERING

PROFESSOR WILSON, ASSOCIATE PROFESSOR MITCHELL, MR. DEAN, MR. HUMPHREYS, MR. CRIPPIN

The course in mechanical engineering is outlined on page 118.

Mechanical engineers are in demand in various lines of engineering work, such as: consulting engineering; power plant

design, construction, and operation; designing, constructing, erecting, operating, and testing all kinds of machinery; manufacturing; engineering salesmanship; heating and ventilating engineering; and efficiency engineering.

The course in mechanical engineering is designed to give the student a broad foundation in the subjects that are of the greatest importance to all branches of engineering, a technical education in his chosen field made practical by shop and laboratory courses, and, in electives, a certain amount of specialization and cultural development. It is believed that such a course will enable the student to be of immediate value to his employer and that it will insure certain advancement in his profession.

## COURSES

No.	Title	Credits	Prerequisites
1	Carpentry and Blacksmithing.....	2	None
2	Founding .....	1-4	None
3	Pattern Making .....	1-4	None
4	Forging .....	1-4	None
5	Machine Shop Practice.....	1-4	None
6	Manual Training .....	2-4	None
7	Advanced Shop Work.....	1-4	2, 3, 4, or 5
8	Automobile Mechanism .....	2	None
9	Automobile Repair .....	2	None
10	Engineering Drawing .....	2-4	None
11	Lettering .....	2-4	None
12a	Mechanical Drawing .....	2	10 or 13
12b	Machine Design .....	4	10
13	Architectural Drawing .....	4	None
14	Machine Design .....	6	10
15	Elementary Mechanism .....	2	None
16	Operation of Power Plant Equipment .....	4	None
17	Experimental Engineering 1.....	4	†
18	Experimental Engineering 2.....	4	†
19	Experimental Engineering 3.....	4	17
20a	Steam Engines and Boilers.....	3	None
20b	Elementary Gas Engines and Producers.....	3	None
21	Mechanics .....	6	None
22a	Theoretical Mechanics .....	4	Math. 4 and 7
22b	Mechanics of Materials.....	4	Math. 4 and 7
24a	Steam Engines and Boilers.....	3	Physics 1
24b	Gas Engines and Producers.....	3	Math. 2
25	Thesis .....	2	24a
26	Machine Design .....	3	†
27a	Hydraulics .....	2	12b, 14
27b	Hydraulic Machinery .....	2	Math. 1 and 2
28a	Ice-Making and Cold Storage.....	4	27b
29	Heating and Ventilation.....	6	24a
30	Elementary Power Plants.....	4	24a, Physics 1
31	Power Plants .....	6	None
32	Commercial Engineering .....	3	24a
33b	Engineering Society .....	1	None
34	Engineering Society .....	1	†

†See statement.

1. **CARPENTRY AND BLACKSMITHING.**—Designed to meet the needs of students in the course in agriculture. Three hours per week. Tu. 2-4, W. 2-4.

MR. HUMPHREYS.

MR. DEAN.

2. **FOUNDING.**—Green sand moulding; melting and pouring brass and iron; core making. Three to six hours per week. M. 1-8, Tu. 1-7, W. 1-8, Th. 5-8, F. 1-8, S. 3-4.

MR. HUMPHREYS.

3. **PATTERN-MAKING.**—Practice in making patterns; care and use of wood-working machinery. Three to six hours per week. M. 1-8, Tu. 1-7, W. 1-8, Th. 5-8, F. 1-8, S. 3-4.

MR. HUMPHREYS.

4. **FORGING.**—Management of fires; drawing and welding; riveting and tempering; case hardening and annealing. Three to six hours per week. M. 2-8, Tu. 1-7, W. 1-8, Th. 5-8, F. 1-8, S. 1-4.

MR. DEAN.

5. **MACHINE SHOP PRACTICE.**—Exercises in chipping and filing; practical work in turning, planing, drilling, grinding, the use of the milling machine, and the erection machinery. Three to six hours per week. M. 2-8, Tu. 1-7, W. 1-8, Th. 5-8, F. 1-8, S. 1-4.

MR. DEAN.

6. **MANUAL TRAINING.**—A beginner's course designed for students who expect to teach manual training in the primary grades; work in paper-cutting, folding and pasting, book-binding, and sloyd. Three to six hours per week.

MR. HUMPHREYS.

7. **ADVANCED SHOP.**—The student will be allowed to do advanced work in any of the preceding courses. Three to six hours per week.

MR. HUMPHREYS.

MR. DEAN.

8. **AUTOMOBILE MECHANISM.**—Lectures and recitations on the construction, operation, care, and repair of the various types of motor vehicles. One hour per week. M. 1.

MR. DEAN.

9. **AUTOMOBILE REPAIR.**—A course of practical talks and demonstrations dealing with materials used in the manufacture of automobiles, and the several processes used in their repair;



aluminum and steel alloys, soldering, brazing, case hardening, annealing, tempering, acetyline welding, and vulcanizing. One hour per week. Th. 1, 2.

MR. HUMPHREYS.

MR. DEAN.

10. ENGINEERING DRAWING.—Free-hand lettering, practice in the use of instruments, principles of orthographic projection, technical sketching of machine parts, making working drawings from sketches, tracing, and blue-printing. Three to six hours per week. Trades course and agricultural students, M. Tu. 5-8; engineering students, W. Th. F. 5-8.

ASSOCIATE PROFESSOR MITCHELL.

11. LETTERING.—Titles for maps and drawings, pen and colored topography. Three to six hours per week. M. F. 2-4.

ASSOCIATE PROFESSOR MITCHELL.

12a. MECHANICAL DRAWING.—Perspective and isometric drawing; intersections; developments; detail drawing; blue-printing. Six hours per week. M. 6-8, Tu. 5-7.

ASSOCIATE PROFESSOR MITCHELL.

12b. MACHINE DESIGN.—A study of empirical methods of design, and the application of the principles of mechanics to the design of machine elements. Text-book, lecture, and recitation, two hours, drawing six hours per week. M. W. 3, Tu. F. 5-7.

ASSOCIATE PROFESSOR MITCHELL.

13. ARCHITECTURAL DRAWING.—Architectural lettering and conventions, standard details of buildings, the orders of architecture, complete plans of buildings from sketches. Six hours per week. M. W. 5-7.

ASSOCIATE PROFESSOR MITCHELL.

14. MACHINE DESIGN.—Kinematics of machinery; design of gear teeth; link motions, cams, etc. Recitation one hour, drawing six hours per week. Tu. 3, Tu. F. 5-7.

ASSOCIATE PROFESSOR MITCHELL.

15. ELEMENTARY MECHANISM.—Lectures and recitations on the elementary parts of machines and simple combinations of elements, one hour per week. M. 2.

ASSOCIATE PROFESSOR MITCHELL.

16. OPERATION OF POWER PLANT EQUIPMENT.—The actual operation and repairing of steam, gas, and oil engines, boilers, pumps, condensers. Six hours per week. Tu. W. 6-8.

MR. CRIPPIN.

17. **EXPERIMENTAL ENGINEERING 1.**—Calibration of engineering instruments; indicators, steam gauges, planimeters, nozzles, meters, and weirs; valve-setting; steam engine, gas engine, and boiler tests. Students registered for this course must have completed or be registered for course 20a or 24a. Laboratory work four hours per week. M. 5-8, F. 5-8.

PROFESSOR WILSON.

18. **EXPERIMENTAL ENGINEERING 2.**—Use of Mahler bomb calorimeter in determining the heat value of coal and oil; flue gas analysis; comparative tests of different types of steam engines, boilers, pumps, gas engines, oil engines, and turbines; special investigations. Students registered for this course must have completed or be registered for course 17. Laboratory work four hours per week. F. 5-8.

PROFESSOR WILSON.

19. **EXPERIMENTAL ENGINEERING 3.**—An advanced course in laboratory investigation for students desiring to take up a definite line of experiments related to some line of study in this department. The experiments and tests will be arranged to meet the needs of small sections. Laboratory work four hours per week.

PROFESSOR WILSON.

20a. **STEAM ENGINES AND BOILERS.**—Elementary theory of steam and gas engines, boilers, their care and management, and valve gears. Text-book, lectures, and recitations three hours per week. Tu. W. Th. 5.

PROFESSOR WILSON.

20b. **ELEMENTARY GAS ENGINES AND PRODUCERS.**—Elementary principles of different types of gas engines and gas producers. Text-book, lectures, and recitations three hours per week. Tu. W. Th. 5.

PROFESSOR WILSON.

21. **MECHANICS.**—An elementary course in mechanics and strength of materials. Text-book, lectures, and recitations, three hours per week. Tu. W. F. 4.

ASSOCIATE PROFESSOR MITCHELL.

22a. **THEORETICAL MECHANICS.**—Statics and dynamics; mathematical discussion of force, inertia, energy, and similar topics. Text-book, lectures, and recitations four hours per week. M. Tu. W. Th. 1.

ASSOCIATE PROFESSOR MITCHELL.

22b. **MECHANICS OF MATERIALS.**—A study of the materials of construction, such as timber, stone, iron, steel, cement, and brick; the development of formulæ for the figuring of the strength of beams, columns, and shafting, with numerous applications to practical problems. Text-book, lectures, and recitations four hours per week. M. Tu. W. Th. 1.

ASSOCIATE PROFESSOR MITCHELL.

24a. **STEAM ENGINES AND BOILERS.**—Elementary thermo-dynamics; theoretical heat engines; valve gears; comparison of types of steam engines, boilers, and feed-water pumps; use of feed-water heater and condenser. Lectures and recitations three hours per week. M. W. F. 4.

PROFESSOR WILSON.

24b. **GAS ENGINES AND PRODUCERS.**—The development and theory of different types of gas and oil engines; suction and pressure producers; a comparison of the cost of gas and steam power. Text-book, lectures, and recitations, three hours per week. M. W. F. 4.

PROFESSOR WILSON.

25. **THESIS.**—Each senior or graduate student who is a candidate for a degree, is required to submit the subject of his thesis not later than December 15th, and the completed thesis not later than May 10th, to a committee, consisting of the candidate's major professor and two other members appointed by the president, for its criticism and approval. All theses must be neatly typewritten on one side of plain white paper, eight by ten inches in size, leaving a one-inch margin. When drawings or diagrams are used they should be made to conform to these dimensions or some multiple of them. The first page of the thesis should contain the title, the following statement: "Thesis submitted by -----to the faculty of the University of Arkansas in partial fulfillment of the requirements for the degree of-----," and the date. Theses submitted for bachelor degrees must be at least 2,500 words in length.

26. **MACHINE DESIGN.**—Designs of complete machines, such as steam engines, gas engines, punches, riveters, and cranes; a thorough study of the theory involved; complete working drawings and assembly. Lectures and recitations two hours, drawing six hours per week. Tu. Th. 2, M. Tu. 5-7.

ASSOCIATE PROFESSOR MITCHELL.

27b. **HYDRAULICS.**—A study of hydraulics and hydrostatics. Text-book, lectures, and recitations two hours per week.

PROFESSOR WILSON.

28a. **HYDRAULIC MACHINERY.**—A study of the design, construction, and operation of turbines and pumping machinery. Text-book, lecture, and recitations two hours per week. Tu. Th. 4.

PROFESSOR WILSON.

29. **ICE MAKING AND COLD STORAGE.**—Theory of the absorption and compression systems of ice-making; ice-making machinery, cost, buildings, and insulation of storage rooms. Lectures and recitations two hours per week.

PROFESSOR WILSON.

30. **HEATING AND VENTILATION.**—The theory of heating and ventilation; a study of the different systems of heating by furnaces, steam, and hot-water, from the text and from the students' working drawings of each system, and a comparison of their respective merits; contracts, specifications, bills of material, and cost of the different plans. Lectures and recitations two hours, drawing three hours per week.

PROFESSOR WILSON.

31. **ELEMENTARY POWER PLANTS.**—An elementary course in power plants, comprising a study of equipment, design of piping system, coal-handling, boiler and engine room auxiliaries, selection of prime movers, and specifications. Lectures and recitations two hours per week.

PROFESSOR WILSON.

32. **POWER PLANTS.**—Mechanical Engineering of power plants; selection of machinery for equipment of power stations; plans and specifications. Lectures and recitations two hours, drawing three hours per week.

PROFESSOR WILSON.

33b. **COMMERCIAL ENGINEERING.**—The factors controlling costs, efficiency systems, depreciation of machinery and equipment, inventories and valuations, cost-keeping, and time systems. Lectures and recitations three hours per week.

PROFESSOR WILSON.

34. **ENGINEERING SOCIETY.**—Two credit hours will be allowed to juniors and seniors who attend regularly the meetings of student branch of the *American Society of Mechanical Engineers* and present at least two papers a year on some engineering subject.

## MINING ENGINEERING

PROFESSOR DRAKE

The course in mining engineering is outlined on page 119. It is planned so as to give the major instruction in geology and mining with minor work in chemistry, civil engineering, mechanical engineering and electrical engineering, and at least a working knowledge of some one modern language besides English.

The practical work of mining, metallurgy, and ore dressing can be learned so much more readily at practical work than no laboratory work in these lines is offered at the University. Students are expected, however, to spend parts of at least two summer vacations at ordinary day work in some mine, mill, or smelter where they will be expected to ask questions of the workmen, keep notes of their observations, and compute the costs of some detailed operations.

While the course is not unduly exacting, it is severe and should be undertaken only by students well prepared mentally and physically. To accomplish all the work well, the average student will have to devote seven or eight hours a day six days a week, to his college work during the academic year.

## COURSES

<b>Mining</b>			
No.	Title	Credits	Prerequisites
1b	Details of Mining Operations.....	3	None
2a	Ore Dressing .....	3	None
<b>Metallurgy</b>			
1b	General Metallurgy .....	2	None
2b	Assaying .....	1	None

## MINING

1b. DETAILS OF MINING OPERATIONS.—Lectures and recitations three hours per week during the second term on excavation of earth; drilling and blasting; driving shafts, adits, and drifts; stoping, timbering, hoisting, draining, and transporting.

PROFESSOR DRAKE.

2a. ORE DRESSING.—General principles and theory of ore dressing, cleansing, crushing, sizing and classifying, jigging, table concentration, stamp milling of gold and silver ores, and descriptions of typical ore dressing works.

PROFESSOR DRAKE.

## METALLURGY

1b. GENERAL METALLURGY.—Elementary study of fuels and furnaces and the metallurgy of iron and steel, copper, lead, silver, and gold. Lectures and recitations, two hours per week.

PROFESSOR DRAKE.

2b. ASSAYING.—Fire assaying of various classes of ores and furnace products of gold, silver, and lead. Laboratory work four hours a week on Saturdays with occasional lectures and recitations.

PROFESSOR DRAKE.

The course in mining and metallurgy will be extended when there is an increased demand for such courses and when additional teaching force is added to the department.



## COLLEGE OF AGRICULTURE

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The courses in the College of Agriculture are designed to train men and women for efficiency in agriculture, whether for the profession of farming, for teaching agriculture, or for specialization in limited fields in preparation for government service.

### ADMISSION

For a detailed statement of the entrance requirements and a description of the subjects accepted for entrance see page 23.

### COURSES OF STUDY

The College of Agriculture offers a four-year course in agriculture leading to the degree of *Bachelor of Science in Agriculture* (B. S. A.); special short courses in agriculture; a four-year course in home economics leading to the degree of *Bachelor of Science in Home Economics* (B. S. H. E.); and a special two-year course in home economics for club and demonstration work.

### COURSE IN AGRICULTURE LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE.

The candidate will be required to comply with the residence and registration requirements and to complete satisfactorily one hundred thirty-eight credit hours as outlined in the following course of study.

#### *Freshman Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Agronomy 1.....	3	Agronomy 1.....	3
Animal Husbandry 3a.....	3	Horticulture 1b.....	3
Biology 2.....	3	Biology 2.....	3
Chemistry 1.....	3	Chemistry 1.....	3
English 1.....	3	English 1.....	3
Mechanical Engineering 1.....	1	Mechanical Engineering 1.....	1
Military Science and Tactics.....	1	Military Science and Tactics.....	1
	<hr/> 17		<hr/> 17

*Sophomore Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Agronomy 2a .....	3	Bacteriology 1b .....	5
Agronomy 2l .....	2	Animal Husbandry 1b.....	3
Chemistry 3a .....	3	Chemistry 5b .....	3
Mathematics 10 .....	4	Civil Engineering 9b. ....	1
Physics 1a .....	2	Physics 1b .....	3
Entomology 1a .....	3	Mechanical Engineering 10.....	2
Military Science and Tactics.....	1	Military Science and Tactics.....	1
	<hr/> 18		<hr/> 18

At the beginning of the junior year the candidate will be required to choose one major and one minor subject from the departments in the college, the choice of which will determine largely his course of study for the junior and senior years.

The following course is prescribed for those who choose Agronomy as a major.

*Junior and Senior Years*

First Semester	Credit Hours	Second Semester	Credit Hours
English 13 .....	3	English 13 .....	3
Economics 12 .....	3	Economics 12 .....	3
Chemistry 6a .....	3	Agricultural Chemistry 1b.....	3
Agronomy 4 .....	3	Agronomy 4 .....	3
Animal Husbandry 4a.....	3	Plant Pathology 3b.....	3
Agronomy 9 .....	2	Agronomy 9 .....	2
*Elective .....	17	Agronomy 5b and 5l.....	5
		*Elective .....	12
	<hr/> 34		<hr/> 34

\*To be chosen from courses approved by the candidate's major professor so as to include for the junior and senior years not less than twenty hours in agronomy and not less than twelve hours in one minor subject.

The following course is prescribed for those who choose Animal Husbandry as a major.

*Junior and Senior Years*

First Semester	Credit Hours	Second Semester	Credit Hours
English 13 .....	3	English 13 .....	3
Economics 12 .....	3	Economics 12 .....	3
Chemistry 6a .....	3	Agricultural Chemistry 1b.....	3
Veterinary Science 1a.....	3	Veterinary Science 1b.....	3
Animal Husbandry 4a .....	3	Animal Husbandry 4b .....	3
Animal Husbandry 9 .....	2	Animal Husbandry 9 .....	2
*Elective .....	17	Agronomy 5b and 5l .....	5
		*Elective .....	12
	<hr/>		<hr/>
	34		34

\*To be chosen from courses approved by the candidate's major professor so as to include for the junior and senior years not less than twenty hours in animal husbandry and not less than twelve hours in one minor subject.

The following course is prescribed for those who choose Horticulture as a major.

*Junior and Senior Years*

First Semester	Credit Hours	Second Semester	Credit Hours
English 13 .....	3	English 13 .....	3
Economics 12 .....	3	Economics 12 .....	3
Chemistry 6a .....	3	Agricultural Chemistry 1b.....	3
Horticulture 6 .....	1	Horticulture 6 .....	1
Horticulture 9 .....	2	Horticulture 9 .....	2
*Elective .....	22	Plant Pathology 3b and 3l.....	4
		Entomology 2b .....	2
		Agronomy 5b and 5l.....	5
		*Elective .....	11
	<hr/>		<hr/>
	34		34

\*To be chosen from courses approved by the candidate's major professor so as to include for the junior and senior years not less than twenty hours in horticulture and not less than twelve hours in one minor subject.

The certificate of *Licentiate of Instruction* is granted to all candidates for a degree who complete the following course.

*Junior and Senior Years*

First Semester	Credit Hours	Second Semester	Credit Hours
English 13 .....	3	English 13 .....	3
Economics 12 or Geology 1a .....	3	Economics 12 or Geology 1b.....	3
Chemistry 6a .....	3	Agricultural Chemistry 1b.....	3
Education 1a .....	3	Education 20b .....	3
Education 22a .....	2	Education 23b .....	2
Education 24 .....	4	Education 24 .....	4
*Elective .....	17	*Elective .....	17
	<hr/> 35		<hr/> 35

\*To be chosen from courses approved by the candidate's major professor so as to include for the junior and senior years not less than sixteen hours in one major subject including the thesis, not less than twelve hours in one minor including courses in not more than two departments, and six hours additional in education.

The following course is prescribed for those who are preparing for graduate or professional work.

*Junior and Senior Years*

First Semester	Credit Hours	Second Semester	Credit Hours
English 13 .....	3	English 13 .....	3
Economics 12 .....	3	Economics 12 .....	3
Chemistry 6a .....	3	Agricultural Chemistry 1b.....	3
French, German, or Spanish.....	6	French, German, or Spanish.....	6
*Elective .....	19	*Elective .....	19
	<hr/> 34		<hr/> 34

\*To be chosen from courses approved by the candidate's major professor so as to include for the junior and senior years not less than twenty hours in one major subject and not less than twelve hours in one minor subject.

*SHORT COURSE IN AGRICULTURE*

The short course in agriculture is designed for those who cannot remain away from home the entire year and who desire a practical course in preparation for farming. The course begins November 16th and continues for three months. To be eligible for admission to the course the applicant must be at least sixteen years of age and must have a common school education.

All short course students will be required to complete the following work:

	Hours Per Week
Agronomy: soils, fertilizers, and tillage.....	3
Agronomy: field crops, cultural methods, corn and grain judging .....	6
Animal Husbandry: live stock judging.....	4
Animal Husbandry: feeding and live stock management .....	2
Veterinary Science: common diseases of live stock and methods of treatment.....	5
Bacteriology and Pathology: farm sanitation.....	1
Horticulture: plant propagation and orchard practice .....	4
Mechanical Engineering: blacksmith shop work, silo construction, and concrete mixing . . . . .	6
	<hr/> 31

In addition to this, each student will be required to elect one of the following courses:

Course 1. Agronomy: cotton and cultural methods. Animal Husbandry: dairying and handling of milk and its products.....	6
Course 2. Agronomy: cotton grading and marketing. Entomology: field crop insects and diseases .....	6
Course 3. Animal Husbandry: poultry and stock breeding; dairying and handling of milk and its products.....	6
Course 4. Animal Husbandry: poultry and stock breeding. Entomology and Plant Pathology: field crop insects and diseases.....	6
Course 5. Horticulture: home and commercial gardening and truck growing .....	6
Course 6. Entomology and Plant Pathology: orchard insects and diseases and their control .....	6

*COURSE IN HOME ECONOMICS LEADING TO THE DEGREE OF BACHELOR SCIENCE IN HOME ECONOMICS*

The candidate must meet the residence and registration requirements and must complete satisfactorily one hundred thirty-two credit hours in approved courses as outlined in the following course of study.

*Freshman Year*

First Semester	Credit Hours	Second Semester	Credit Hours
English 1 .....	3	English 1 .....	3
Chemistry 1 and 11 .....	4	Chemistry 1 and 11 .....	4
Physics 6 and 61.....	4	Physics 6 and 61.....	4
Home Economics 30.....	3	Home Economics 30.....	3
Art 2a .....	2	Art 2b .....	2
Physical Education 1.....	1	Physical Education 1.....	1
<hr/>		<hr/>	
17		17	

*Sophomore Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Biology 8 .....	4	Biology 8 .....	4
Home Economics 10.....	3	Home Economics 10 .....	3
Bacteriology 2a .....	5	Home Economics 34b .....	2
Home Economics 31.....	3	Home Economics 31 .....	3
Elective .....	1	Chemistry 20b .....	4
Physical Education 2.....	1	Physical Education 2.....	1
<hr/>		<hr/>	
17		17	

*Junior Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Foreign Language .....	3	Foreign Language .....	3
Home Economics 20.....	3	Home Economics 20.....	3
Home Economics 11.....	3	Home Economics 11.....	3
Home Economics 32.....	2	Home Economics 32 or 25b.....	2
*Elective .....	5	*Elective .....	5
<hr/>		<hr/>	
16		16	



*Senior Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Foreign Language .....	3	Foreign Language .....	3
Home Economics 2.....	4	Home Economics 2.....	4
Home Economics 1.....	3	Home Economics 1.....	3
Home Economics 40a.....	2	Home Economics 45b.....	4
*Elective .....	4	Home Economics 21b.....	2
	<hr/> 16		<hr/> 16

\*To be chosen from courses approved by the candidate's major professor. Students who expect to teach should elect courses 1a, 20b, 22a, and 23b in Education in order to fulfill the requirements for the certificate of Licentiate of Instruction (see page 106).

*TWO-YEAR COURSE IN HOME ECONOMICS PREPARING FOR CLUB AND DEMONSTRATION WORK*

*Freshman Year*

First Semester	Credit Hours	Second Semester	Credit Hours
English 1 .....	3	English 1 .....	3
Chemistry 1 .....	4	Chemistry 1 .....	4
Home Economics 30.....	3	Home Economics 30.....	3
Home Economics 10.....	3	Home Economics 10.....	3
Physical Education 1.....	1	Physical Education 1.....	1
*Elective .....	3	*Elective .....	3
	<hr/> 17		<hr/> 17

*Sophomore Year*

First Semester	Credit Hours	Second Semester	Credit Hours
Home Economics 11.....	3	Home Economics 11.....	3
Home Economics 20.....	3	Home Economics 20.....	3
Home Economics 41.....	3	Home Economics 41.....	3
Bacteriology 2a .....	5	Physical Education 2.....	1
Physical Education 2.....	1	*Elective .....	7
*Elective .....	2		
	<hr/> 17		<hr/> 17

\*To be chosen from courses approved by the student's advisor.

For a description of the two-year teacher's course, see the School of Education, see page 105.

## BUILDINGS AND EQUIPMENT.

*Agricultural Chemistry Laboratory.* The laboratory of agricultural chemistry is situated in the Experiment Station Building. It is equipped with water, gas, tables, hoods, and all apparatus necessary for analytical problems in agriculture.

*Cotton Laboratory.* The cotton laboratory is situated in the Agricultural Building. It is equipped for technical study of cotton and cotton fiber in addition to the more practical study. A new improved gin, a common gin, a fibre-strength testing machine, a lantern for the study of length and character of fiber, microscopes, and hundreds of samples of cotton, representing all types and grades, are available for instruction and research.

*Entomological Laboratory.* The entomological laboratory is situated on the first floor of Agricultural Hall, occupying two rooms. It is well supplied with apparatus, such as microscopes, microtomes, paraffin baths, dissecting instruments, collecting nets, insect cabinets, and work-tables. The collection of insects is growing rapidly and serves as a valuable aid to the student of entomology.

*Field Crops Laboratory.* The laboratory of field crops is situated on the second floor of the Agricultural Building. A complete set of material is used in the study of types, strains, and quality, and the scoring and judging of staple and miscellaneous crops.

*Horticultural Laboratory.* For such work as must be carried on indoors, there is available for study and practice a fairly complete equipment of spraying machinery, garden tools, implements, and conveniences. There are rooms equipped for practical instruction in grafting, seed sowing, seed testing, and transplanting. The greenhouse offers facilities for some phases of class work, plant study, and practice. By using the orchard, garden, greenhouse, and campus as a laboratory, the student has opportunity to combine theory and technique in the most beneficial manner.

*Plant Pathology Laboratory.* The laboratory of plant pathology is situated in the Experiment Station Building. It is equipped with high power microscopes and such apparatus as is needed for the study of plant tissues and plant diseases.

*Soils Laboratory.* The soils laboratory is located on the first floor of the Agricultural Building. It is equipped with apparatus for special study of soils with the view of giving the student an insight into the formation, composition, and character of soils with reference to their bearing upon soil fertility, adaptability, and all methods of soil treatment affecting the productivity and conservation of soils.

*Bacteriology Laboratory.* The research laboratory of the department is located in the Experiment Station Building, where a part of the instruction in bacteriology is given. A well equipped laboratory in the Dairy Building is used for the major part of the student work.

*Dairy Laboratories.* The Dairy Building is equipped with a full line of modern dairy machinery. A modern creamery is operated throughout the year. Student laboratories are equipped for the study of sanitary principles in dairying and with separators, churns, vats, and equipment for standard home dairying.

*Animal Husbandry.* Modern barns, including dairy barn, horse barn, hog barn, and poultry houses, are easily accessible for use in instruction. The livestock—horses, cattle, swine, and poultry—form the basis for instruction in animal industry.

*Home Economics Laboratories.* Half a floor in Peabody Hall is occupied by the laboratories for cookery, sewing, millinery, and table service, and a reception room. The equipment in each laboratory is new and modern, chosen for its utility and convenience. It is sufficient to carry on successfully the work of the classes in the various branches of home economics.

## DEPARTMENTAL STATEMENTS

## SYMBOLS

The suffix *a* following the numeral indicates first semester courses; the suffix *b*, second semester courses. A repetition of the two (e. g. 7a, 7b) indicates courses offered either semester. A combination of the two (e. g. 7ab) indicates year courses in which credit will be allowed for one semester's work; in courses not so designated the second semester must be completed before credit will be allowed for the first. The suffix *l* indicates laboratory courses.

## CREDIT HOURS

The number of credit hours allowed in each course is identical with number of hours of lecture or recitation per week through the semester; in laboratory, shop, or field work two to three hours is considered as equivalent to one hour of lecture or recitation.

## AGRICULTURAL CHEMISTRY

PROFESSOR RATHER, MR. WILL

Agricultural chemistry deals mainly with the changes occurring in the soil, the growth and life of plants, the feeding of animals, and the preparation of food products. It is essentially the application of chemistry to agricultural problems.

It is assumed that the student has a knowledge of general chemistry and is familiar with the properties of the more commonly occurring elements and their compounds.

## COURSES

No.	Title	Credits	Prerequisites
1b	Agricultural Chemistry .....	3	Chemistry 1, 3, and 5
2	Advanced Agricultural Chemistry.....†	1	b, Chemistry 1, 3, 5, and 6

†See statement.

1b. AGRICULTURAL CHEMISTRY.—A detailed study of the application of chemistry to agricultural problems, accompanied by oral and written reviews of experiment station bulletins dealing with various phases of agricultural chemistry. Lectures, recitations, and reports, three hours per week.

PROFESSOR RATHER.

2. **ADVANCED AGRICULTURAL CHEMISTRY.**—Chemical analysis of feeds, fertilizers, insecticides, fungicides, dairy products, soils, and foods. Laboratory work supplemented by lectures, the amount of credit to be determined by the work done.

PROFESSOR RATHER.

MR. WILL.

## AGRONOMY

PROFESSOR NELSON, ASSISTANT PROFESSOR HUNGERFORD,  
MR. OSBORN

Agronomy is the science of the field, the soil and its crops. The study of the soil is conducted from the standpoint of the fundamental principles of management of the soil for crop production and for affording opportunity for special study in particular fields of the subject. The study presupposes a fair understanding of the general principles of physics, chemistry, and plant physiology.

The study of crops is conducted from the standpoint of the fundamental biological and physiological principles underlying the growth, adaptation, and improvement of plants, and economic and business management of the field and its crops. The study presupposes a general knowledge of botany.

### COURSES

No.	Title	Credits	Prerequisites
1	Agronomy .....	6	None
2a	Soil Physics Lecture .....	3	1
2l	Soil Physics Laboratory .....	2	†
4	Farm Crops .....	6	1
5b	Soil Fertility Lecture .....	3	2a
5l	Soil Fertility Laboratory.....	2	†
6b	Farm Drainage .....	3	2a
7	Advanced Judging .....	4	1, 2a, 2l, 4
8a	Genetics .....	3	†
8b	Plant Breeding .....	3	8a
9a	Farm Management .....	3	†
10	Research Work .....	†	†
11	Thesis .....	2-4	†
12	Public School Agriculture .....	6	None

†See statement.

1. **AGRONOMY.**—A study of crops—corn and small grains, cotton and other fibre crops, grasses, clovers, forage, and miscellaneous crops. It consists of a study of types, varieties, strains, quality, market standards, the use of score cards, grading, identification

of seeds of grasses, clovers, alfalfa, and other legumes and forage crops, weed seed and characteristic adulterants, noxious and parasitic seeds. Stress is placed upon the staple crops. Lectures and recitations one hour and laboratory four hours per week.

MR. OSBORN.

2a. SOIL PHYSICS.—A study of the nature, origin, formation, and classification of soils; soil moisture and the methods of conserving it; movements of soil water; its relation to color, light, and temperature; objects and method of use of farm implements as related to the various soils and crops; cultivation and drainage as affecting soil moisture, temperature, aeration, root development, and the supply of available plant food. Lectures and recitations three hours per week. M. W. F. I.

ASSISTANT PROFESSOR HUNGERFORD.

2l. SOIL PHYSICS.—The nature of soil, methods of treatment and the effect of these methods upon aeration, texture, temperature, moisture, water holding capacity, and crop production. The work comprises the determination of such constants as specific gravity, pore space, capillarity, organic matter, etc., of the various types of soils; mechanical analysis of soils; soil survey and soil mapping. Laboratory work six hours per week, designed to accompany course 2a.

ASSISTANT PROFESSOR HUNGERFORD.

4. FARM CROPS.—A thorough study of staple and miscellaneous farm crops; methods of cultivation, seeding, harvesting, storing, and marketing; testing, selecting, and improving; combating weeds. Lectures and recitations three hours per week.

MR. OSBORN.

5b. SOIL FERTILITY.—A study of conditions governing productivity, exhaustion of soils, and maintenance of fertility; soil bacteria; organic matter, green manures, farm manures, and commercial fertilizers; rotation of crops and treatment of soil; soil building; a permanent agriculture. Lectures and recitations three hours per week.

ASSISTANT PROFESSOR HUNGERFORD.

5l. SOIL FERTILITY.—A laboratory course in soil chemistry designed to supplement course 5b. Six hours per week.

ASSISTANT PROFESSOR HUNGERFORD.

6b. FARM DRAINAGE.—A study of drainage and irrigation with



reference to the farm; mapping, planning, and laying drainage systems and rice farms; field work, including the care, adjustment, and use of instruments for this purpose. Lectures and recitations two hours and laboratory and field work three hours per week.

ASSISTANT PROFESSOR HUNGERFORD.

7. SPECIAL JUDGING.—Advanced judging of cotton, corn, rice, and grains. Laboratory exercises four hours per week.

MR. OSBORN.

8a. GENETICS.—A study of the fundamental principles of variation and heredity preparatory to courses in practical plant and animal breeding. Designed to give a thorough knowledge of the basic principles involved in the systematic improvement of plants and animals. Lectures and recitations three hours per week.

MR. OSBORN.

8b. PLANT BREEDING.—The practical application of the principles of variation and heredity to the breeding of general farm crops. Special attention is paid to the practical breeding of corn, cotton, grains, and forage crops. Lectures and recitations three hours per week.

MR. OSBORN.

9a. FARM MANAGEMENT.—Selecting and buying the farm; systems of farming, intensive and extensive, specialized and general; arrangement, organization, and equipment for special systems; administration and cost of production; marketing farm products; records and accounts. Lectures and recitations three hours per week.

MR. OSBORN.

10. RESEARCH WORK.—Research work in special problems designed for advanced students.

11. THESIS.—Required of those who choose Agronomy as a major.

12. PUBLIC SCHOOL AGRICULTURE.—A course in general agriculture designed to prepare students to teach the subject in the public schools of the state. Lectures and recitations one hour and laboratory and field work four hours per week.

## ANIMAL HUSBANDRY

PROFESSOR DVORACHEK, MR. SANDHOUSE, MR. HERVEY,  
MR. HERZER

This department offers courses in live stock production, dairying, and poultry. Training is given in all lines of work which pertain to the selection, breeding, feeding, development, care, and management of the various classes and breeds of farm animals. The stock and poultry owned by the department are used to familiarize the student with the various types and breeds of live stock and their management. Students interested in dairy manufactures have the opportunity to study the machinery in operation in the creamery.

## COURSES

No.	Title	Credits	Prerequisites
1a	Live Stock Judging.....	3	1b, 3a
1b	Live Stock Judging.....	3	3a
2a	Poultry Husbandry.....	3	None
2b	Elements of Dairying.....	4	Chemistry 1
3a	History of Breeds.....	3	None
3l	Pedigree Work.....	2	3a
3b	Dairy Stock Judging.....	3	1a, 1b, 3a, 3l
4a	Feeds and Feeding.....	3	Chem. 1 and 3
4b	Animal Breeding.....	3	Agronomy 8a
5a	Pork Production.....	2	1a, 1b, 3a, 3l, 4a
5b	Milk Production.....	2	1a, 1b, 2b, 3a, 3l, 4a
6a	Horse Production.....	3	1a, 1b, 3a, 3l, 4a
6b	Beef, Mutton, and Wool Production.....	3	1a, 1b, 3a, 3l, 4a
7a	Advanced Live Stock Judging.....	3	1a, 1b, 3a, 3l,
7b	Advanced Poultry Husbandry.....	3	2a
8a	Creamery Work and Dairy Mechanics.....	4	2b
9	Thesis.....	4	†

†See statement.

1a. LIVE STOCK JUDGING.—Scoring and judging of breed types of horses, cattle, sheep, and swine. Breed characteristics are given special attention and placings are made according to breeders' and show yard standards. Animals from the college herds, supplemented by livestock owned by neighboring livestock breeders, are used for class work. Four hours laboratory and one hour lecture per week.

PROFESSOR DVORACHEK.  
MR. SANDHOUSE.

1b. **LIVE STOCK JUDGING.**—Scoring and judging market classes of horses, cattle, sheep, and swine. Score card work followed by comparative judging is given in this course in order to familiarize the student with the location and relative value of the various points in farm animals. Four hours laboratory and one hour lecture per week.

PROFESSOR DVORACHEK.  
MR. SANDHOUSE.

2a. **POULTRY HUSBANDRY.**—The principles of the following subjects will be studied in the order given: breeds, housing, feeding, breeding, incubation and brooding, poultry products, diseases, and management. The course will consist of lectures and recitations and will be supplemented by collateral readings, including reviews of experimental work done in poultry husbandry by various experiment stations. Three hours per week.

MR. HERVEY.

2b. **ELEMENTS OF DAIRYING.**—The lectures and recitations include a study of the secretion and composition of milk, causes of variation in composition, abnormal milk and its causes, bacteria in milk products, the lactometer, milk adulteration, milk preservatives, the various methods of cream separation, farm butter-making, and proper handling of milk and its products on the farm. The laboratory work includes testing milk and its products, study and operation of different kinds of cream separators, and farm butter making. Six hours laboratory and two hours lectures and recitations per week.

MR. HERZER.

3a. **HISTORY OF BREEDS.**—The characteristics of each breed of horses, cattle, sheep, swine, goats, and jacks are carefully studied. As far as possible individuals from the college herds will be used to show the desired types. Each breed is discussed with reference to its origin, history, development, and adaptation to American conditions. Notable individuals of each breed and prominent breeders are discussed. Lectures and recitations three hours per week.

MR. SANDHOUSE.

3l. **PEDIGREE WORK.**—The library of herd register books will be used for this work. Students are taught the use of these books in writing of extended pedigrees. Methods and forms of regis-

tration and transfer on pure bred animals are also taken up. Four hours laboratory per week.

MR. SANDHOUSE.

3b. DAIRY STOCK JUDGING.—Show yard judging of dairy cattle, classification of animals in the show ring, comparative judging. Trips are made to large herds owned by neighboring dairy-men and other herds in the state. This work is designed to select and train a judging team for the National Dairy Show. Six hours laboratory per week.

PROFESSOR DVORACHEK.

4a. FEEDS AND FEEDING.—A study of the principles of animal nutrition; digestibility of feeds; composition, feeding values, and preparations of feeds; construction and use of silos; selection of feeds for balanced rations; and the economical feeding of all farm animals for various purposes. Lectures and recitations three hours per week.

PROFESSOR DVORACHEK.

4b. ANIMAL BREEDING.—A study of the principles of animal breeding; reproductive organs; the various systems of animal breeding; and the application of the principles of genetics to practical animal breeding. Lectures and recitations three hours per week.

PROFESSOR DVORACHEK.

5a. PORK PRODUCTION.—An advanced course in swine farm management both from the standpoint of the general and special breeder. Economy of production is emphasized. Famous individuals and families of the various breeds are studied. The selection, feeding, breeding, housing, pasturing, care, and management of the herd are treated at length. Problems in management are assigned. Lectures and recitations supplemented by collateral readings of experimental data, two hours per week.

MR. SANDHOUSE.

5b. MILK PRODUCTION.—An advanced course in dairy farm management both from the standpoint of the general and the special dairymen. The breeds are considered with special reference to famous individuals and families in the show ring, in production, and as breeders. Selection, breeding, feeding, housing, record keeping, pasturing, care, and management are considered at length. Problems in management are assigned. Lectures and

recitations, supplemented by collateral reading of experimental data, two hours per week.

PROFESSOR DVORACHEK.

6a. HORSE PRODUCTION.—An advanced course in horse farm management both from the standpoint of the general and the special breeder. The breeds are considered with special reference to famous individuals in the show ring and in the breeding stud. Selection, feeding, stabling, grooming, and training of horses. Care and management of stallions, mares, and colts. Feeding the horse when idle, and at high, medium, or heavy work. Problems in management are assigned. Lectures and recitations supplemented by collateral reading of experimental data, three hours per week.

PROFESSOR DVORACHEK.

6b. BEEF, MUTTON, AND WOOL PRODUCTION.—An advanced course in beef, cattle, and sheep farm management both from the standpoint of the general and the special breeder. Famous individuals and families in the show ring or as breeders are considered. The most approved methods of selection, breeding, feeding, housing, marketing, care, and management for economical production of beef, mutton, and wool are discussed at length. Problems in the management are assigned. Lectures and recitations supplemented by collateral reading of experimental data, three hours per week.

MR. SANDHOUSE.

7a. ADVANCED LIVE STOCK JUDGING.—Show yard judging of breed types and market classes of horses, beef cattle, sheep, and swine. Classification of animals in the show ring. Comparative and competitive judging. Trips to large herds in different sections of the country. Students required to spend several days attending county and state fairs judging live stock. This course is designed to select and train a judging team for the International Livestock Show. Six hours laboratory per week.

PROFESSOR DVORACHEK.

MR. SANDHOUSE.

7b. ADVANCED POULTRY HUSBANDRY.—The subjects of course 2a will be considered in more detail, supplemented by practical experience on the University poultry plant. Six hours laboratory and one hour lecture per week.

MR. HERVEY.



8a. CREAMERY WORK—DAIRY MECHANICS.—Practice in the operation of a creamery in butter, cheese, and ice cream making; pasteurization; pure culture starters; cream ripening; cream grading; churning; working, printing, and marketing butter; cheese making; and ice cream making. Shop practice with steam engines, boilers, artificial refrigeration machinery, creamery machinery, pipe fitting, and belt lacing. A complete course in creamery management. Six hours laboratory and two hours lectures and recitations per week.

MR. HERZER.

9. THESIS.—This course consists of a written theme covering data of some original experiment planned by the student and carried on under the direction of the professor in charge of the department. Required of all seniors majoring in Animal Husbandry.

## BACTERIOLOGY AND PATHOLOGY

ASSISTANT PROFESSOR McARTHUR

### COURSES

No.	Title	Credits	Prerequisites
1b	General Bacteriology	5	Chemistry 1
2a	Household Bacteriology	5	Chemistry 1
3a	Dairy Bacteriology	3	1b
4b	General Hygiene	2	None
5b	Immunity and Serum Therapy	3	1b

1b. GENERAL BACTERIOLOGY.—Designed to give an understanding of the morphology, physiology, and classification of bacteria, with a study of the relation of bacteria to disease and to various agricultural processes, including a training in laboratory methods. Lecture three hours and laboratory four hours per week.

ASSISTANT PROFESSOR McARTHUR.

2a. HOUSEHOLD BACTERIOLOGY.—Introductory work in bacteriology will be taken up followed by a study of sanitation and the relation of bacteria, yeasts, and molds to the home. Lecture three hours and laboratory four hours per week.

ASSISTANT PROFESSOR McARTHUR.

3a. DAIRY BACTERIOLOGY.—A study of the bacterial content of milk, butter, cheese, and various dairy products, and of the use



of bacteria in commercial dairying. Lectures two hours and laboratory two hours per week.

ASSISTANT PROFESSOR McARTHUR.

4b. GENERAL HYGIENE.—A study of the general principles of hygiene and sanitation. Lecture and demonstration two hours per week.

ASSISTANT PROFESSOR McARTHUR.

5b. IMMUNITY AND SERUM THERAPY.—Designed for advanced students. A special study of infection, immunity, and the preparation of vaccines, serums, and antitoxins. Lectures and demonstration three hours per week.

ASSISTANT PROFESSOR McARTHUR.

## ENTOMOLOGY

ASSISTANT PROFESSOR BECKER

The courses in entomology are designed to give the student an insight into the subject either from an economic or from a biological standpoint.

### COURSES

No.	Title	Credits	Prerequisites
1a	General Entomology .....	3	None
2b	Economic Entomology .....	2	1a
3a	Morphology of Insects.....	3	†
4a, 4b	Elementary Systematic Entomology.....	3	1a or 3a

†See statement.

1a. GENERAL ENTOMOLOGY.—A study of the morphology, habits, and classification of insects. Lecture two hours and laboratory three hours per week.

ASSISTANT PROFESSOR BECKER.

2b. ECONOMIC ENTOMOLOGY.—A study of the various economically important insects and critical phases of their life histories, methods of control, and insecticides and the theory of their application. Lectures and recitations two hours per week. Laboratory exercises in the compounding and application of insecticides are taken up jointly with the Department of Plant Pathology in course 3l. Students are advised to take Plant Pathology 3b and 3l in conjunction with this course.

ASSISTANT PROFESSOR BECKER.

3a. MORPHOLOGY OF INSECTS.—This course takes up in more detail the laboratory work of general entomology and is designed for advanced students. Course 1a must accompany or precede it. This course may be substituted for the laboratory in course 1a.

ASSISTANT PROFESSOR BECKER.

4a. 4b. ELEMENTARY SYSTEMATIC ENTOMOLOGY.—A laboratory study of the wing venation of insects and of the grosser distinguishing characteristics used in classifying insects.

ASSISTANT PROFESSOR BECKER.

## HOME ECONOMICS

MISS PECK, MISS METZGER

### COURSES

No.	Title	Credits	Prerequisites
1	Presentation of Home Economics.....	6	10, 30
2	Practice Teaching .....	8	10, 30
10	Elementary Cooking .....	6	Chemistry 1
11	Advanced Cooking .....	6	10
20	Dietetics .....	6	10, Chem. 1
21b	Social Work and Home Economics.....	2	†
25b	House Architecture .....	2	Chemistry 1
30	Elementary Sewing .....	6	None
31	Advanced Sewing .....	6	30
32	Millinery .....	4	30
34b	Textiles .....	2	Chemistry 1
40a	Household Decoration .....	2	Art 2
41	Canning Club and Demonstration Work.....	6	10
45	Thesis .....	4	†

†See statement.

1. PRESENTATION OF HOME ECONOMICS.—A treatment of the methods of teaching domestic science and domestic art. Complete lesson plans are made out and submitted to the class and the instructor for criticism. F. 5.

MISS PECK.

2. PRACTICE TEACHING.—Daily teaching of home economics in the Training High School in practical application of the principles of instruction. A special critic class composed of the teachers themselves will be conducted.

MISS PECK.

MISS METZGER.

10. **ELEMENTARY COOKING.**—A study of the selection, manufacture, and preparation of foods, including the serving of simple menus. Marketing and economy are emphasized. M. W. 5-7.

MISS PECK.

11. **ADVANCED COOKING.**—Instruction and practice in planning menus, purchasing foods, and preparing and serving luncheons, varying in cost from three cents to one dollar. Some idea of institutional management may be gained from this course. M. W. 10, M. W. F. 3-4.

MISS PECK.

20. **DIETETICS.**—Theoretical and practical instruction in nutrition, including the serving of menus planned according to the laws of nutrition and the preparation of balanced and special dietaries. A course in home nursing is included. M. W. F. 2.

MISS PECK.

21b. **SOCIAL WORK AND HOME ECONOMICS.**—A study of sociology and heredity as related to the problems of the social worker; a detailed consideration of dietetics in relation to infant mortality and malnutrition; a brief treatment of the relation of social conditions to morality. This course is open only to seniors or to sophomores in the two-year course in the School of Education.

MISS PECK.

25b. **HOUSE ARCHITECTURE.**—A course in planning the home, including a detailed study of plumbing, heating, lighting, and ventilating. Tu. 2.

MISS PECK.

30. **ELEMENTARY SEWING.**—Practice in hand sewing in plain and ornamental stitches; darning and patching; drafting simple patterns and adapting commercial patterns; the care and use of the sewing machine and simple machine problems. Undergarments, including both hand and machine-made, and a linen or cotton dress, are required. M. W. F. 1-2; Tu. Th. 5-7.

MISS METZGER.

31. **ADVANCED SEWING.**—Drafting patterns; designing and constructing winter and spring dresses; instruction in the principles, technique, and application of costume design. M. W. 5-7.

MISS METZGER.

32. **MILLINERY AND ART NEEDLEWORK.**—Constructing and covering wire and buckram hat frames; bows and flowers and the

renovating of materials for hat trimming; practical exercises in making fall and spring hats; and instruction in the various types of art needlework. Tu. 3, F. 6-8.

MISS METZGER.

34b. TEXTILES.—Source of supply, structure, manufacture, and relative value of fabrics and methods of determining their adulteration. Tu. Th. 4.

MISS PECK.

40a. HOME FURNISHING AND DECORATION.—The principles of design and color applied to interior decoration; problems in the cost and selection of floor and wall finishes, hangings, floor coverings, and furniture; economy, style, and appropriateness in home furnishings. Tu. Th. 4.

MISS METZGER.

41. CANNING CLUB AND DEMONSTRATION WORK.—One practical lesson and one demonstration by a member of the class each week. Students registered in this course may be called upon for extension service within the county or to provide demonstrations for the Home Economics Club. Each member of the class will be required to give at least one public demonstration during the semester.

MISS PECK.

45a, 45b. THESIS.—A thesis in the field of the student's major subject is required of all seniors who are candidates for a degree. The course will require monthly conferences with the instructor with a full report of the work done. This course may be elected in either the first or second semester of the senior year.

MISS PECK.

MISS METZGER.

## HORTICULTURE

PROFESSOR WICKS, MR. HEARD

The courses in Horticulture are grouped under five distinct subjects: pomology; small fruit culture; vegetable gardening; floriculture; and landscape gardening.

## COURSES

No.	Title	Credits	Prerequisites
1b	Plant Propagation and Culture .....	3	None
2	Practical Pomology .....	8	1b
3a	Small Fruit Culture.....	3	1b
4a	Systematic Pomology .....	3	1b, 2, 3a
5b	Vegetable Gardening .....	3	1b
6	Seminar .....	2	1b, 2, 3a, 4a.
7a	Commercial Pomology .....	3	1b, 2, 3a, 4a
8b	Landscape Gardening .....	2	1b
9	Thesis .....	4	1b, 2, 3a, 4a.
10a	History and Evolution of Horticultural Plants.....	3	1b

1b. PLANT PROPAGATION AND CULTURE.—A study of the methods used in the greenhouse and nursery for the multiplication of plants and of the common practices and problems of orchard and garden. Lectures and recitation two hours and laboratory two hours per week.

MR. HEARD.

2. PRACTICAL POMOLOGY.—A study of the general and fundamental principles of fruit growing with practical problems in handling commercial orchards. The student is expected to become skillful in planting, pruning, thinning, harvesting, and packing. Lectures and recitations three hours and laboratory two hours per week.

MR. HEARD.

3a. SMALL FRUIT CULTURE.—A study of the small fruits, such as the strawberry, blackberry, raspberry, currant, gooseberry, and dewberry, with reference to their history, classification, propagation, planting, pruning, enemies, harvesting, and marketing. Lectures and recitations three hours per week.

MR. HEARD.

4a. SYSTEMATIC POMOLOGY.—A study of the description, nomenclature, and classification of our common fruits, with practice in fruit judging and displaying. Comparison is made of varieties

of fruits from different states. This course consists mainly of reference and laboratory work.

MR. HEARD.

5b. VEGETABLE GARDENING.—Classifying, cultivating, handling, and marketing vegetables from both a home and a market garden standpoint. Lectures and recitations two hours and laboratory two hours per week.

MR. HEARD.

6. SEMINAR.—One lecture a week on technical work for advanced students dealing with special problems.

PROFESSOR WICKS.

7a. COMMERCIAL POMOLOGY.—A course dealing with problems of packing, marketing, transporting, storing, forming fruit growers' associations, and handling by-products. Lectures, recitations, and reference reading two hours and laboratory two hours per week.

PROFESSOR WICKS.

8b. LANDSCAPE GARDENING.—A study of the elementary principles with reference to the selection and arrangement of trees and plants for beautifying private and public grounds. Lectures and recitations one hour and laboratory two hours per week.

MR. HEARD.

9. THESIS.—Required of all seniors who major in horticulture.

PROFESSOR WICKS.

10a. HISTORY AND EVOLUTION OF HORTICULTURAL PLANTS.—A study of the history and evolution of our horticultural plants with special reference to trees and small fruits. Lectures, recitations, and reference reading, three hours per week.

MR. HEARD.

## PLANT PATHOLOGY

PROFESSOR HEWITT, MR. FIELDS

### COURSES

No.	Title	Credits	Prerequisites
1a	Mycology .....	4	Biology 2
2b	Plant Pathology .....	4	1a
3b	Diseases of Plants.....	3	Biology 2
3i	Fungicides and Insecticides.....	1	†
4b	Bacteria in Relation to Plant Disease .....	3	1a or 3b, and Bact. 1b
5a	Disease of Trees.....	3	1a or 3b
9	Research .....	†	1a, †

†See statement.



1a. MYCOLOGY.—Morphology of typical fungus forms and the classification of fungi, including a brief consideration of the allied groups of lower plants. Lectures and recitations two hours and laboratory six hours per week.

PROFESSOR HEWITT.

2b. PLANT PATHOLOGY.—Diseases of plants in relation to parasites and environment; conditions inducing disease and the reaction of the diseased organism. Lectures and recitations two hours and laboratory three hours per week. The equivalent of one hour per week is spent in summer field work.

PROFESSOR HEWITT.

MR. FIELDS.

3b. DISEASES OF PLANTS.—The more important fungous and bacterial diseases of crop plants, their characteristics and control. Lectures and recitations two hours and laboratory three hours per week.

PROFESSOR HEWITT.

3l. FUNGICIDES AND INSECTICIDES.—A study of the more widely used spraying mixtures and disinfecting and fumigating materials and methods of using them. This course consists of laboratory exercises designed to accompany course 3b, and is conducted jointly with the Department of Entomology. Students are advised to take Entomology 2b in conjunction with this course. Three hours per week.

PROFESSOR HEWITT.

ASSISTANT PROFESSOR BECKER.

4b. BACTERIA IN RELATION TO PLANT DISEASE.—Cultural and morphological studies of bacteria causing plant disease; infection experiments. Lectures and recitations two hours and laboratory three hours per week.

PROFESSOR HEWITT.

5a. DISEASES OF TREES.—The diseases of economically important forest trees; the causes of decay in timber. Lectures and recitations two hours and laboratory three hours per week.

PROFESSOR HEWITT.

9. RESEARCH.—Work in original research will be assigned to students with sufficient preparation. Required of all students who choose Plant Pathology as a major.

PROFESSOR HEWITT.

## VETERINARY SCIENCE

ASSISTANT PROFESSOR GCW, DR. CALDWELL

## COURSES

No.	Title	Credits	Prerequisites
1a	Veterinary Science .....	3	None
1b	Veterinary Science .....	3	1a

1a. VETERINARY SCIENCE.—A general outline of veterinary anatomy and physiology, diseases of animals, their treatment, and simple surgery. Lectures and recitations two hours and laboratory and clinics four hours per week.

DR. CALDWELL.

1b. VETERINARY SCIENCE.—The anatomy and physiology of domestic animals; dentition and the determination of age by teeth; lameness, its cause, prevention, and cure; ventilation and disinfection; contagious diseases and disease processes; methods of restraint and anaesthetics; surgery. Lectures and recitations two hours and laboratory and clinics four hours per week.

DR. CALDWELL.

# AGRICULTURAL EXPERIMENT STATION

## PURPOSE

The purpose of the Experiment Station is to determine facts, work out problems and make investigations that have a bearing upon the agriculture of the state and the country in general. The results of investigations are published in bulletin form and distributed free. All information in possession of the various departments of the institution is available to citizens of the state upon demand. The farmer is in this way relieved of the time, labor, and expense involved in working out experiments for himself. He also receives the benefit of facts that only the best trained specialists are capable of determining. Practically all of the agricultural information that we possess and put into practice is based upon experiment station effort.

## STAFF

The working staff of the Experiment Station is practically identical with teaching force of the College of Agriculture. The same persons are required to do both teaching and research work in their respective fields. The work of the Station is continuous throughout the year. Research work constitutes the major burden of the staff.

## DEPARTMENTS

The *Department of Agronomy* carries on investigations with farm crops, testing and breeding new and pure varieties of cotton, corn, grains, grasses for hay, pasture, and cover and other agricultural crops. It also conducts experiments in soil fertility and the management of soils for different crops. This work is carried on at the experimental farms at the main station and substations. A special feature is the work with cotton and corn at the substations of the southern part of the state.

The *Department of Animal Husbandry* carries on investigations in feeding, breeding, and care of farm animals, including poultry. Its special feature is a well-selected herd of hogs, representing several breeds, on which various feeding and breeding tests are made. In connection with this department is a model dairy, equipped with improved dairy machinery and well equipped

with laboratories. The dairy is conducted on an economic basis.

The *Department of Bacteriology* conducts investigation and research relative to the causes and character of animal diseases and means of combating them.

The *Department of Chemistry* carries on investigations in the application of chemistry to agriculture. Its laboratories are fitted with improved modern apparatus.

The *Department of Entomology* conducts investigations in life histories of insects injurious to agriculture and methods of exterminating such insects. Orchard nursery inspection is a feature of the work.

The *Department of Horticulture* is equipped with a greenhouse, in which forcing experiments and other experiments in plant propagation are carried on. The orchards and grounds in charge of this department contain many varieties of apples, pears, plums, cherries, and small fruits, which serve as material for experiments with varieties, methods of culture, pruning, and spraying.

The *Department of Plant Pathology* carries on investigation of plant diseases with reference to their nature, cause of development, and means of combating and eradicating them. The department is equipped with excellent apparatus for its investigations.

The *Department of Veterinary Science* supervises state inspection for contagious diseases of animals and for the eradication of cattle tick; it investigates also the best means of checking and stamping out diseases of animals.

## DIVISION OF EXTENSION

J. H. MILLER, *Dean and Director.*

W. C. LASSETTER, *Assistant Director, in Charge of Specialists.*

C. W. WATSON, *Assistant Director, in Charge of Farm Demonstrations.*

ANTONIO MARINONI, *Secretary, Correspondence Study Department.*

J. R. JEWELL, *Secretary, Public Lecture Department.*

J. H. MCLEOD, *Specialist in Animal Husbandry.*

D. R. FORRESTER, *Specialist in Animal Husbandry.*

R. H. MASON, *Specialist in Dairy Husbandry.*

J. S. KNOX, *Specialist in Horticulture.*

EARL KILPATRICK, *Specialist in Farm Crops.*

W. A. DENMAN, *Specialist in Tick Eradication.*

J. E. GIBSON, *Specialist in Tick Eradication.*

MARCELLA ARTHUR, *Specialist in Home Economics.*

ISABELLE S. THURSBY, *Specialist in Home Economics.*

W. J. JERNIGAN, *Assistant State Agent, in Charge of Boys' and Girls' Club Work.*

H. K. SANDERS, *Specialist in Pig Club Work.*

EMMA ARCHER, *Assistant State Agent, in Charge of Home Demonstration Work.*

RUBY S. TENNYSON, *Assistant Supervisor, Home Demonstration Work.*

HARRY F. KAPP, *District Supervisor, Farm Demonstrations.*

R. C. DAVIDSON, *District Supervisor, Farm Demonstrations.*

J. C. BARNETT, *District Supervisor, Farm Demonstrations.*

In addition to the regular staff, the University employs in its extension service through the state fifty-five farm demonstration agents in fifty counties, and thirty-five home demonstration agents in thirty-four counties.

### PURPOSE

The leading purpose of all colleges and universities, until within the last quarter century, was to educate a few boys and girls of the best classes of society for the scholarly or professional vocations. Until very recently the public did not expect

even its own public educational institutions to perform any service beyond the teaching of those who voluntarily sought instruction within their walls. A broader and a nobler idea has recently influenced the activities of most state universities and colleges, namely, that of serving all of the people.

The University of Arkansas desires to extend its campus to the limits of the state, as widely as its limited appropriations for this service will permit. The Extension Division is given supervision of this field, including extension service and correspondence courses in agriculture, home economics, education, industrial arts, public engineering, and general welfare. Many of these activities will be very limited until the University is given special appropriations for certain lines of public service, other than agriculture. For the present they can be developed beyond such limits only as the public is willing to help defray traveling expenses.

#### AGRICULTURAL EXTENSION SERVICE

Practically all extension service in agriculture is carried on in cooperation with the United States Department of Agriculture with a special Federal appropriation for demonstration service and with the Federal and State Smith-Lever funds. This work as now organized includes two lines of service, each under an assistant director.

1. FARM AND HOME DEMONSTRATION WORK.—This department has its headquarters in Little Rock, with an assistant director of extension service, or a state agent, for farm demonstration work with three district supervisors, each having supervision over the work in twenty-five counties. One assistant is in charge of boys' demonstration or club work, and another is in special charge of the home demonstration or girls' canning and poultry clubs, each of them with an assistant. On February 1, 1916, there are in service fifty-five county farm demonstration agents working in fifty counties, and thirty-five county home demonstration agents in thirty-four counties. The farm demonstration agents take to the farmers on their own farms the sound teachings of the College of Agriculture and the United States Department of Agriculture and prove these teachings by actual cropping and feeding demonstrations. The women agents organize girls' canning and poultry clubs and teach the girls (and the mothers who are willing to receive the instruction) how to



can vegetables and fruits, how to grow poultry, and how to make butter. While these are the prescribed duties, it may truly be said that these men and women agents are teachers, preachers, doctors, and friends to all the people.

2. **FARMERS' MEETINGS, SCHOOLS, AND SPECIAL SERVICE.**—This department also has its headquarters in Little Rock, with an assistant director in charge, with specialists in farm crops, animal husbandry, dairy husbandry, horticulture, tick eradication, hog cholera control, and home economics. This department is responsible for farmers' meetings, farmers' clubs, farmers' schools, cooking schools, dairy schools, and for all other work of the specialists including farm visits, special demonstration, special service for the county agents, introduction of pure bred stock, building dipping vats, vaccination for hog cholera, and many other ways of serving the farms and the rural homes of the state.

Another very far-reaching piece of extension service is the organization of home economics study clubs in the villages and small towns or in the country where a group of girls or women may form a club to meet regularly for discussion of certain problems, assigned previously for home practice. Lessons are sent from the office of the Division of Extension each week and reports are sent back after each meeting. The importance of this work cannot be over-estimated. Next year more clubs will be organized as the extension force is increased.

A free correspondence course system has been adopted in which a series of six courses is offered through the weekly newspapers. A six-column page of plate material is sent every six weeks allowing a column to be read each week. Each course consists of eight lessons. The courses offered for the year ending September 1, 1916, are: soils and soil fertility, forage crops for Arkansas, growing farm animals, orchard and garden, boys' and girls' clubs, public education. Other courses will be offered during the year beginning September 1, 1916. This work is independent of the courses offered in the Correspondence Study Department.

#### ENGINEERING EXTENSION SERVICE

There are many ways in which the Engineering College might be of invaluable service to the state if funds were provided for specialists to devote their time solely to public service. As far

as college work will permit, however, public service will be offered, free except for traveling expenses, in inspecting light and water plants, power plants, mills and factories, and heating plants for school and other public buildings. Visits will be made to examine drainage problems; plans and specifications furnished for culverts and small bridges; and service rendered for investigating water power possibilities for towns and cities. Information and advice will be freely given on any and all engineering and industrial problems.

#### CORRESPONDENCE STUDY SERVICE

Through this department, the University will strive to reach two great classes of people; thoughtful men and women, desirous of more education, but unable to avail themselves of the greater advantages of residence study at the University; and a large body of young people who are ambitious to have a college education, but who are not able to complete a high school course in residence in order to prepare for it.

Correspondence study courses are prepared for:

1. Students preparing for college or professional schools, who lack certain entrance requirements.
2. College students who are unable to live in residence during some part of their four year course.
3. Teachers of the public schools of the state who have had little normal school work or college training and who wish to take this means of preparing themselves for better places in their profession.
4. Professional and business men who wish to supplement their training.
5. Club women who wish to pursue a systematic course of study.
6. Teachers and others who desire to supplement their training or to do work of investigation along some special line.
7. Mechanics, artisans, draughtsmen, and other wage earners who wish to pursue vocational studies in order to increase their efficiency in their life work.
8. Farmers desirous of more knowledge of the problems of agriculture.
9. Ministers who are anxious to enlarge their view and know more of certain subjects that will help them in their work.

10. All those who wish to foster in their lives the element of culture by keeping abreast of the social movements of the time.

A copy of the special bulletin describing correspondence courses more in detail may be had by applying to the Division of Extension.

**HIGH SCHOOL WORK.**—The extension division will offer some of the preparatory courses usually found in the better high schools of the state. These courses will not only prepare for entrance those who intend to go to college, but will be of just as great value to the young men and women of Arkansas who are going out as active workers without the advantages of college training. These courses are not intended to compete or conflict with the high schools of the state. Their object is to reach, first, those students who reside in rural communities or small towns that do not support first-grade high schools, or persons who for any reason find it impossible to attend their high schools, or to obtain in those high schools certain courses that they desire.

**COLLEGE COURSES.**—A large proportion of the courses offered by the University may be taken by correspondence for college credit. In order to be eligible for a degree, however, the student must take the work of at least the senior year in residence at the University. Exceptions to this rule may be made by the faculty of the college in favor of students who have been in residence at the University one or more years, and have done work of exceptionally high character.

**VOCATIONAL STUDIES.**—As the demand for them arises, the University will offer all the industrial courses possible for the benefit of persons engaged in the various vocations, trades, and crafts.

**COURSES NOT YET OFFERED.**—Anyone who desires to take a course not indicated in the bulletin is invited to write to the Division of Extension and state his wants. Such courses will be given as soon as a sufficient number of applications are received to warrant it.

**REGISTRATION.**—Application blanks will be sent free of charge to all applicants. These blanks should be carefully filled out and returned to the Division of Extension with the fee or fees required.

**FEES.**—A fee of five dollars will be charged for each semester course of three hours or less, or ten dollars for each year course of three hours or less, in addition to which the student will pay the return postage on his papers. Fees are non-returnable. All courses listed in the bulletin are semester courses, unless otherwise stated. The fee for a semester course in the College of Agriculture will be four dollars.

**REGULATIONS.**—1. Students may enroll at any time. Correspondence work will be carried on throughout the year.

2. The average student is expected to complete a semester course in from four to six months, but he has the privilege of completing any such course in less than four months. A semester course must be completed within twelve months from the time of registration.

3. Not more than two courses may be taken by correspondence at one time.

4. College credit is granted only to students who have met the entrance requirements of the University. For unconditioned entrance a student must present fourteen units of high school work. A unit is defined as a high school study pursued for a year with daily recitations of forty-five minutes each; it is further defined as approximately one-quarter of a full year's work in a high school.

5. Students who enroll in correspondence study courses for a university degree must comply with all of the requirements of the college or school in which such degree is sought.

6. A student doing full work in another institution of learning, either high school or college, will not be permitted to register for correspondence work in the University of Arkansas. This privilege may be allowed to a student of another institution who is doing less than full work therein, but he must first secure the approval of the proper authority of his school.

7. Resident students of the University are not allowed to take correspondence work.

**STUDY CENTERS.**—Just as soon as funds will permit, university extension centers will be organized in connection with correspondence studies. This will be possible only where a sufficient number of students in the same town are taking the same course, to justify the expense of sending a member of the faculty to that town from time to time to lecture on the subject-matter of the

course, and to give individual help to the students enrolled. For the time being this can be done only where the students themselves offer to pay the traveling expenses of the instructor.

#### PUBLIC LECTURE SERVICE

Through this department of extension service, the University offers its best talent to the people of the state. Twenty-six members of the faculty offer to go to any part of the state to give one or more lectures on subjects of interest to the people. Requests for lectures should be sent in advance, as convenient circuits may often be arranged for two or more engagements, thus dividing the expense. The Division of Extension will be glad to furnish a part or an entire lecture course for a town or small city with probably far better talent, and at much less expense than such a course could be secured in any other way. Requests for entire courses should be filed, if possible, before June 10 of each year, although they will be received at any time. This service is free except for actual expenses. The Division of Extension will send, on application, a special bulletin giving the subjects of lectures offered and the names of the lecturers.

#### GENERAL EXTENSION SERVICE

The University wishes to be of service to all the people and it is recognized that there are many human interests not easily classified. The aim of this department is to investigate and answer questions relating to various problems, educational, agricultural, historical, social, industrial, economic; problems on finance, municipal government, city lighting, city water, sewerage, sanitation, health—in short, all problems that may concern any individual or any community of Arkansas.

**HIGH SCHOOL SOCIETIES.**—Special attention will be given to assisting high school debating teams and literary societies in their work. There has recently been issued a bulletin on high school debating, in which there is outlined a plan for organizing a state league of debaters. The bulletin contains also much valuable information about methods of choosing a subject, of stating the question, of securing references, a model brief, and other suggestions for young debaters. Copies will be sent free on application to the Division of Extension.

OTHER ORGANIZATIONS.—All literary societies, and other organizations such as granges, farmers' unions, and civic clubs, are invited to make free use of the Extension Division of the University, and all this service will be free. All inquiries relative to any extension or public service should be addressed to the Dean, Extension Division, University of Arkansas.



# COLLEGE OF MEDICINE

## FACULTY

- JOHN CLINTON FUTRALL, M. A., *President of the University.*  
MORGAN SMITH, M. D., *Dean, Professor of Pediatrics.*  
EDWIN BENTLEY, M. D., U. S. A. (Retired), *Emeritus Professor of Surgery.*  
JAMES H. LENOW, A. M., M. D., *Emeritus Professor of Genito-Urinary Diseases.*  
F. L. FRENCH, M. D., *Emeritus Professor of Anatomy.*  
FRANK VINSONHALER, M. D., *Professor of Diseases of the Eye, Ear, Nose, and Throat.*  
ANDERSON WATKINS, M. D., *Professor of Genito-Urinary Diseases and Associate Professor of Surgery.*  
CALEB E. WITT, M. D., *Professor of Materia Medica and Therapeutics.*  
ARTHUR R. STOVER, A. M., M. D., *Professor of Chemistry.*  
JOSEPH. P. RUNYAN, M. D., *Professor of Surgery.*  
WM. R. BATHURST, M. D., *Professor of Dermatology and Syphilology.*  
JAMES L. DIBRELL, M. D., *Professor of Anatomy.*  
JAS. C. CUNNINGHAM, M. D., *Professor of Obstetrics.*  
EDW. M. PEMBERTON, M. D., *Professor of Physiology.*  
A. E. HARRIS, M. D., *Professor of Clinical Medicine.*  
ORANGE K. JUDD, M. D., *Professor of Medicine.*  
MAHLON D. OGDEN, M. D., *Professor of Gynecology.*  
CHARLES BROOKOVER, M. S., Ph. D., *Professor of Histology and Embryology.*  
A. C. SHIPP, A. M., M. D., *Professor of Pathology and Bacteriology.*  
CARLE E. BENTLEY, M. D., *Clinical Professor of Surgery.*  
WM. A. SNODGRASS, M. D., *Associate Professor of Surgery.*  
JOHN G. WATKINS, M. D., *Associate Professor of Diseases of Eye, Ear, Nose, and Throat.*  
DAN R. HARDEMAN, M. D., *Associate Professor of Pediatrics.*  
OSCAR GRAY, M. D., *Associate Professor of Gynecology.*  
ROBERT CALDWELL, M. D., *Associate Professor of Diseases of Eye, Ear, Nose, and Throat.*  
H. H. KIRBY, M. D., *Associate Professor of Anatomy.*  
HENRY THIBAUD M. D., *Associate Professor of Medicine.*

- ROBERT L. SAXON, B. S., M. D., *Associate Professor of Gynecology.*
- STERLING P. BOND, B. S., M. D., *Associate Professor of Genito-Urinary Diseases.*
- O. A. CARRUTH, M. D., *Associate Professor of Obstetrics.*
- CHAS. S. HOLT, M. D., *Associate Professor of Surgery.*
- D. A. RHINEHART, A. M., M. D., *Associate Professor of Anatomy.*
- M. E. DUNAWAY, A. B., LL. B., *Associate Professor of Medical Jurisprudence.*
- DEWELL GANN, JR., A. M., M. D., *Associate in Surgery.*
- ROSCOE C. KORY, A. B., M. D., *Associate in Medicine.*
- CHARLES E. OATES, A. B., M. D., *Associate in Chemistry and Pharmacology.*
- J. VINCENT FALISI, A. M., M. D., *Associate in Medical Gastro-Enterology.*
- THOS. H. CATES, M. D., *Associate in Diseases of the Eye, Ear, Nose, and Throat.*
- ALBERT G. MCGILL, M. D., *Instructor in Medicine.*
- AUGUSTINE M. ZELL, M. D., *Instructor in Electro-Therapeutics.*
- SAMUEL P. VAUGHTER, M. D., *Instructor in Materia Medica.*
- C. W. GARRISON, M. D., *Instructor in Tropical Diseases.*
- J. P. SHEPPARD, M. D., *Instructor in Clinical Medicine.*
- G. H. SCIARONI, M. D., *Instructor in Clinical Microscopy.*
- A. B. COON, M. D., *Instructor in Anesthetics.*
- IDA JOE BROOKS, M. D., *Instructor in Social Hygiene.*
- C. S. PETTUS, M. D., *Instructor in Ethics, Medical Economics, and Medical History.*
- T. M. FLY, M. D., *Instructor in Medicine.*
- HENRY E. McMULLAN, A. B., *Instructor in Physics.*
- E. O. DAY, M. D., *Instructor in Materia Medica.*
- GEO. B. FLETCHER, M. D., *Instructor in Mental and Nervous Diseases.*
- MRS. CHARLES E. OATES, *Instructor in German.*
- CHARLES R. CHESNUTT, M. D., *Assistant in Materia Medica.*
- S. L. REVELEY, M. D., *Assistant in Clinical Laboratory.*
- J. B. WELLS, *Assistant in Pathology and Bacteriology.*
- NOLIE MUMMEY, *Assistant in Surgical Technique.*
- D. C. LEE, M. D., *Assistant in Pediatrics.*
- HOMER A. HIGGINS, M. D., *Assistant in Surgical Pathology and Operative Surgery.*

CHARLES RUSSELL DOYNE, M. D., *Clinical Assistant in Mental and Nervous Diseases.*

S. B. HINKEL, M. D., *Assistant in Obstetrics.*

E. DUNSCOMB, *Assistant in Hygienic Laboratory.*

W. T. MCMURRY, M. D., *Assistant in Diseases of Eye, Ear, Nose, and Throat.*

BERTHA R. PARKER, *Assistant in Pathology and Bacteriology.*

C. N. PATE, M. D., *Assistant in Diseases of Eye, Ear, Nose, and Throat.*

E. M. HUDSON, M. D., *Assistant in Diseases of Eye, Ear, Nose, and Throat.*

HON. R. L. FLOYD, *Assistant Instructor in Medical Jurisprudence.*

STANLEY M. GATES, B. S., M. D., *Assistant in Surgical Pathology.*

ALVIN L. JOBE, M. D., *Assistant in Therapeutics.*

MURRAY AUERBACH, *Supervisor of Social Service Work.*

MISS E. M. WENGER, *District Nurse.*

#### HISTORY

The Medical Department of the University was organized at Little Rock in 1879. In 1911 it was consolidated with the College of Physicians and Surgeons and by an act of the general assembly became the Medical College of the University of Arkansas.

#### ADMISSION

The College of Medicine is co-educational.

Admission to the College may be secured by examination or by certificate.

*Admission by Certificate.* For admission candidates must present fourteen units of high school work, these units being the same as those required for admission to the colleges at Fayetteville.

Nine and one-half units are prescribed as follows: English, 3 units; algebra,  $1\frac{1}{2}$  units; plane geometry, 1 unit; history, 1 unit; physics, 1 unit; Latin, 2 units. For the 2 units of Latin, 4 units of either French or German may be substituted, provided a satisfactory examination in the elements of Latin grammar is passed.

Four and one-half additional units must be presented, selected

from the following: Latin, 2 units, in addition to the 2 units required; Greek, 3 units; French, 3 units; German, 3 units; English, 1 unit in addition to the 3 units required; physical geography,  $\frac{1}{2}$  unit; physiology, 1 unit; botany, 1 unit; zoölogy, 1 unit; biology, 1 unit; chemistry, 1 unit; civics  $\frac{1}{2}$  unit; agriculture, 1 unit; pedagogy,  $\frac{1}{2}$  unit; psychology,  $\frac{1}{2}$  unit; manual training,  $\frac{1}{2}$  unit.

In addition to the preparatory work required for entrance, the candidate must have completed collegiate courses in physics, chemistry, biology, and German or French.

*Admission for Examination.* Students who do not present acceptable credentials will be required to stand examinations for entrance. The examinations will cover the subjects required for admission by certificate and will be conducted according to the rules governing examinations for admission to the other colleges of the University.

The entrance examinations will be held at Little Rock by the State Superintendent of Public Instruction or by his authorized representative.

#### REQUIREMENTS FOR GRADUATION

The degree of *Doctor of Medicine* (M. D.) is conferred on candidates who have met the requirements for graduation.

Candidates for the degree must be twenty-one years of age, must present satisfactory evidence of good moral character, and must have complied with the entrance requirements of this College.

Candidates must have attended and satisfactorily completed four courses of lectures, no two of which shall have been attended in the same calendar year. Three years of the required work may have been done in some other medical college or colleges of recognized standing whose requirements are equivalent to those of this college. The last year of the four years' work must be done in the Medical College of the University of Arkansas.

#### EQUIPMENT

*Buildings and Laboratories.* The main building, erected in 1890, is a three-story brick structure containing a lecture hall, amphitheater, museum, dissecting room and laboratories. A second building, occupied chiefly by laboratories, has been out-

grown, and the east wing of the old state capitol is used for laboratories of chemistry, embryology, histology, physiology, pathology, bacteriology, clinical microscopy, surgical pathology and pharmacology. These laboratories are well equipped with new apparatus and supplies. The space is ample and the rooms are well lighted.

#### HOSPITAL AND CLINICAL FACILITIES

*The Logan H. Roots Memorial Hospital.* This public city hospital was founded by the late Logan H. Roots. Closed corridors connect the hospital with the clinical amphitheaters of the college building. A large medical and surgical dispensary is connected with this hospital.

*The Pulaski County Hospital.* This hospital is situated in the southwestern part of the city and has a capacity of two hundred beds. A feature of the hospital is the cottage treatment of tuberculosis. Clinics are held at the hospital throughout the session.

*The University Hospital.* The College has perfected arrangements with Dr. E. Meek, the owner of the University Hospital, by which students will receive instruction. It is well equipped with modern operating rooms and has a capacity of one hundred beds. It has rooms especially arranged for the care of acute nervous and mental diseases and the treatment of inebriety and narcotic habits, and maternity wards for the care of obstetrical cases.

*The Isaac Folsom Clinic.* This clinic was named in honor of the late Dr. Isaac Folsom, in consideration of his gift of an endowment of \$20,000. This clinic is under the direct and exclusive control of the faculty, and all its material is available for teaching purposes.

*St. Vincent's Infirmary.* St. Vincent's Infirmary, designed solely for the treatment of acute diseases, has a capacity of nearly two hundred beds. The hospital is splendidly equipped and conveniently situated. It is under the supervision and management of Sisters of Charity who are trained nurses.

*St. Luke's Hospital.* This new hospital for surgical and gynecological cases has been opened recently by a member of the faculty. It is modern in all its appointments.



## STATE INSTITUTIONS

All of the eleemosynary institutions of the state are situated in Little Rock. These include the School for the Blind, the School for Deaf Mutes, the State Hospital for Nervous Diseases, the Penitentiary, the Reform School, County and City Hospitals, etc., all of which contribute to the available clinical material.

## EXPENSES

*Fees*

Tuition Fee, per annum-----	\$125.00
Graduation and Diploma Fee-----	25.00

There are no other fees, but in the first and second year courses in chemistry a \$10.00 deposit to cover breakage, etc., is required; in the third year a \$3.00 deposit is required. After the necessary deductions, the balance of a deposit is refunded.

*Living Expenses*

Board and lodging, including fuel and lights, may be had at a cost of \$4.00 to \$6.00 a week or of \$15.00 to \$20.00 a month.

## HOSPITAL APPOINTMENTS

At the *Logan H. Roots Memorial Hospital* the staff annually appoints two resident physicians to serve twelve months each.

At the *University Hospital* Dr. E. Meek and his staff appoint two resident physicians every year.

At *St. Vincent's Infirmary* the staff selects two internes every year.

At the *Pulaski County Hospital* Dr. J. P. Sheppard and his staff select four internes every year.

At the *State Hospital for Nervous Diseases* the staff selects ten internes every year.

Appointment to the foregoing hospital positions is determined by competitive examinations. These examinations are held in the spring of the year and may be taken by graduates of the Medical College of the University of Arkansas.

## ANNOUNCEMENT

Address Dr. Morgan Smith, Dean of the Medical College of the University of Arkansas, Little Rock, Arkansas, for the special *Bulletin of the Medical College*. The bulletin will give information in detail.



# BRANCH NORMAL COLLEGE

## FACULTY

- JEFFERSON G. ISH, B. S., A. B., *Superintendent, Chemistry, Physics, Physiology.*  
FREDERICK T. VENEGAR, B. S., *Principal, Geometry, Physical Science, Pedagogy.*  
A. R. REEVES, A. B., *Mathematics.*  
S. J. ALTHEIMER, *History, Mathematics.*  
C. P. McLURKIN, A. B., *Agriculture.*  
T. D. HILL, *Assistant in Agriculture.*  
D. E. JOHNSON, JR., *Music, Arithmetic.*  
ERNESTINE I. COPELAND, A. B., *English.*  
IRENE C. ROSS, *English, Geography.*  
T. W. COGGS, B. S., *Instructor in Woodwork.*  
W. P. KOON, *Instructor in Blacksmithing.*  
ISAAC HATHAWAY, *Ceramics.*  
DORA W. ADAIR, *Domestic Science.*  
AILER LEWIS, *Sewing.*

The Branch Normal College is situated at Pine Bluff, Arkansas. It was established pursuant to an act of the general assembly of Arkansas, of April 27, 1873, and has been in operation since 1875.

Its purpose is to provide industrial training and to train teachers for efficient service in the colored public schools of the state.

## PROPERTY AND BUILDINGS

The school property consists of twenty acres of land in the western suburbs of Pine Bluff.

The buildings include a two-story school building, containing an assembly hall, six class rooms, and cloak rooms; well equipped mechanical shops; and a dormitory for women.

## ADMISSION

Candidates for admission must be at least thirteen years of age and must pass a satisfactory examination in arithmetic, English grammar, geography, and United States history such as is covered in the fifth grade. Those coming from other schools must furnish evidence of satisfactory deportment and class standing.

## APPOINTMENT OF BENEFICIARIES

Beneficiary students may be appointed by the county judge of each county in the state. Students who receive these appointments pay no tuition fees.

## FEES AND EXPENSES

The *matriculation fee* is \$5.00.

For students not having appointments, *entrance fee*, \$5.00.

*Board, fuel, and light* in the women's dormitory, \$8.00 a month.

*Tuition*, \$1.00 a month.

All fees are payable in advance.

## DEPARTMENTS OF THE BRANCH NORMAL COLLEGE

*Preparatory Department.* In the preparatory department the foundation academic subjects are studied. The work of the department corresponds to sixth, seventh, and eighth grade public school work.

*Normal Department.* To enter the normal department the student must have completed the work of the preparatory department. The purpose of the normal department is to prepare students for teaching. Upon satisfactory completion of the four years' course of study, students receive the certificate of *Licentiate of Instruction*.

*Industrial Department.* Beginning with the second year in the preparatory department, all students are required to pursue certain industrial courses. The industrial work extends through four years, and the completion of the work is attested by a certificate of efficiency.

Young men do shop work in mechanic arts, carpentry, and cabinet making, and have the opportunity to become skilled blacksmiths, machinists, engineers, or firemen.

Young women are taught plain sewing, cutting and fitting, and art needle-work.

*Agricultural Department.* In this department two courses of study are offered, one designed especially for students who are preparing to teach in the public schools, and a second course, for those who intend to teach agriculture. The latter course includes work in agronomy, farm economics, and kindred subjects.

## LITERARY SOCIETIES AND RHETORICALS

The *Phyllis Wheatley Literary Society* is a literary society for young women; the *Philosophian Literary Society* is a society for young men.

*Rhetoricals.* Public rhetorical exercises are held once each month. All students are required to take part.

## ATHLETICS

There is an athletic association for young men and a similar association for young women.

# DEGREES, DIPLOMAS, AND CERTIFICATES

June, 1915

## BACHELOR OF ARTS

Alexander, Reba  
Batten, John Tucker  
Bell, Susan Thelma  
Blackshare, James Osmer  
Bragg, Peter Newport  
Blair, Cecil Clyde  
Cates, Allen Wade  
Cargile, Louis Claire  
Coventon, John William  
Decker, Kivia Leona  
Derden, Jesse Holmes  
Duncan, Edgar Everett  
Ellis, Elizabeth  
Forwood, Eleanor  
Forrest, Leland Stanford  
Gibson, Ruth  
Gilliam, Surrey Edgar  
Greig, James Killer  
Gladson, Marion Lenore  
Gregg, Russell Cravens  
Gregg, Pansy Inez  
Harvey, Robin  
Harville, Archie Watson  
Holt, Mitchell Lafayette  
Holt, Joe Berry  
Hughes, Anna Irene  
Hughes, Jewell Constance

Johnson, Nelle  
Jordan, Pauline  
Joyner, John Edward  
Lake, John Pinnix  
Lee, Robert Davis  
McCulloch, Richard Burrus  
McCulley, Icey May  
McCain, Dolph  
McGill, Walter Greenfield  
Moore, Lyla Gertrude  
Nelson, Edward Huston  
Newton, William Kenyon  
O'Neal, Beatrice Virginia  
Park, Mae Deatus  
Pettigrew, Helen  
Porter, Florence Edwina  
Pratt, Joy Margaret  
Robinson, Henry Evelyn  
Redus, Frank Brown  
Southall, Richard C.  
Smith, Euclid Theodore  
Sly, Altho G.  
Stone, Marion  
Williams, Ben Robinson  
Wilson, James Freed  
Walls, Louise  
Wiggins, Sam B.

## ELECTRICAL ENGINEER

Douglas, C. H.  
Lee, R. A.

Moody, William F.

## BACHELOR OF ELECTRICAL ENGINEERING

Bell, John Edward  
Bonner, Ed C.  
Davidson, Elmer C.  
Dunn, J. Howard

Dinwiddie, James Anthony  
Goss, Alpha L.  
Hopper, D. Claude  
Jones, Maurice F.

## BACHELOR OF CIVIL ENGINEERING

Barry, William Taylor, Jr.  
Browne, Leroy Walton  
Gerig, Francis Austin  
Huber, Casper A.  
Swilleu, George W.

Stewart, Reed  
Turner, Adlai Stevenson  
Thompson, Lilburn E.  
White, Tell T.

## BACHELOR OF SCIENCE IN AGRICULTURE

Price, Oscar Gibson  
Stout, S. Rodney

Wood, Roy G.

## LICENTIATE OF INSTRUCTION

Brown, Bonnie Bess  
 Burney, Frances  
 Cabe, Mary Ethel  
 Calloway, Jewell  
 Chenault, Ella May  
 Eld, Ellen Eva  
 Greene, Louise Una  
 Hill, Willie Sue  
 Hill, Fannie May  
 Houston, Mary  
 Hughes, Anna  
 Holmes, Odus G.  
 Jones, Annie Laurie  
 Joyner, John Ed  
 Krone, Marie Ann  
 Lano, Mildred  
 Lanford, Nelle  
 Lincoln, Blanche

Lincoln, Adaline  
 Mackey, Minnie Florence  
 Middlebrook, Mary Edna  
 Nichols, Gelene A.  
 Osborne, Virginia  
 Oster, Mabel Addie  
 Pratt, Margaret Joy  
 Roney, Annie Jo  
 Rogers, Clementine  
 Rudolph, Freda Frances  
 Shell, Effie  
 Scurlock, Stella  
 Smith, Myrtle  
 Stewart, Jessie B.  
 Stevenson, Ola  
 Tennyson, Ruby  
 Webster, Ima  
 Wynche, Ethel Adaline

## SHORT COURSE IN MECHANICAL ENGINEERING

Fitzhugh, Stewart

## SHORT COURSE IN ELECTRICAL ENGINEERING

Newman, Herber A.

## SHORT COURSE IN CIVIL ENGINEERING

Dabler, Fred

## PIANOFORTE

Bird, Freda  
 Carl, Isola  
 Duncan, Irene

McClurkin, Daisy  
 McGraw, Babb  
 Rogers, Julia

## DIPLOMA IN PIANOFORTE

Mulkey, Annie Hurl  
 McNair, Effie

Sutton, Margaret  
 Stewart, Jessie

## POSTGRADUATE CERTIFICATE IN PIANOFORTE

Greene, Louise Una

Rice, Clara May

## GRADUATE HONORS

Reba Alexander  
 Claude Bethel  
 D. Claude Hopper

Jewell Hughes  
 Marion Stone  
 Tell T. White

## DEPARTMENTAL HONORS

English: Marion Stone, first; Susan Bell, second.  
 German: Marion Stone, first; Eleanor Forwood, second.  
 Ancient Languages: Jewell Hughes, first; Susan Bell, second.  
 Mathematics: Jewell Hughes, first.  
 Biology: Robin Harvey, first.  
 Economics: William Newton, first; James Wilson, second.  
 Electrical Engineering: Claude Hopper, first; Maurice Jones, second.  
 Civil Engineering: Tell White, first; Casper Huber, second.  
 Mechanical Engineering: Claude Bethel, first.  
 History: James Blackshare, first.

## CLASS HONORS

Susan Bell.

# LIST OF STUDENTS

1915-1916

## EXPLANATION OF ABBREVIATIONS

A	.....College of Arts and Sciences
E	.....College of Engineering
Ag	.....College of Agriculture
Ed	.....School of Education
F	.....Freshman
So	.....Sophomore
J	.....Junior
Sr	.....Senior
S	.....Special
Gr	.....Graduate
T	.....Trade Course
U	.....Unclassified

NAME	COURSE	HOME ADDRESS
Acree, James T.	E-F	Jonesboro
Adams, James W.	A-S	Pine Bluff
Adams, John D.	A-So	Little Rock
Albright, Chester E.	A-J	Fayetteville
Albritton, Louis	E-F	Texarkana
Alcorn, Maurice L.	Ed-Sr	Imboden
Alcorn, Merritt O.	Ed-Sr	Fayetteville
Alcorn, Oral	Ed-F	Imboden
Alewine, Omar B.	E-F	Atkins
Alexander, Otis	A-F	Mena
Allen, Emmet J.	Ag-F	DeQueen
Allen, Katherine	A-F	Ozark
Allen, Glenn L.	E-Sr	Prescott
Allsopp, James E.	E-F	Little Rock
Aiter, Glenn K.	Ag-S	DeWitt
Anis, James W.	A-So	Fort Smith
Anderson, Lance D.	E-F	Fayetteville
Armstrong, R. B.	A-J	Wynne
Ashley, Marie Louise	A-So	Morrilton
Atkins, Wm. Ruby	A-F	Magnolia
Atkinson, Edwin J.	Ag-F	Star City
Atkinson, Pearl	A-F	Nashville
Austin, Russell H.	Ag-J	Mena
Bain, James O.	A-So	Portland
Ballard, Eva Mae	Ag-So	Gravette
Barrett, Roy E.	A-F	Newport
Batson, Paul J.	A-So	Conway
Banks, Love E.	Ed-So	Soudan
Battles, Lorenzo F.	A-S	Battles
Beard, Samuel J.	Ag-F	Heber Springs
Beasley, Ruth K.	A-Sr	Fayetteville
Beauchamp, James A.	A-F	Nashville
Belknap, Ray I.	E-F	Sulphur Springs
Bell, Benjamin F.	E-T	Mena
Bell, Lillian Grace	Ed-So	Greenwood
Belts, Winifred	Ed-F	Fayetteville
Benton, Sidney R.	Ag-So	Fayetteville
Best, I. Boyd	A-J	Bassett
Bird, Beverly Ann	Ed-F	Waldron



NAME	COURSE	HOME ADDRESS
Bird, Harland	Ag-F	Springdale
Bird, Marie	Ed-F —	Waldron
Bird, Milmo	E-So	Waldron
Bishop, Howard	A-F	Monticello
Bishop, John W., Jr.	E-T	Nashville
Bishop, Mark	A-So	Nashville
Bishop, Oscar	E-F	Fort Smith
Black, William H.	A-F	Monticello
Planks, Aubrey G.	A-So	Hamburg
Blanks, Lane W.	A-Sr	Hamburg
Bloom, Clarice	Ed-F —	Helena
Bond, George W.	Ed-So —	Summers
Boone, Thomas W. M., Jr.	A-F	Fort Smith
Roone, William B.	E-F	Lonoke
Bossemeyer, Clyde O.	E-T	Fayetteville
Bowman, James E.	Ag-S	Little Rock
Boyd, Drury T.	E-J	Fayetteville
Bradley, Burnelle	A-Sr	Little Rock
Bradley, James	A-F	Jonesboro
Bradsher, Tom A.	A-S	Harrisburg
Brewer, Clarence N.	Ed-F —	Fayetteville
Brewer, W. H.	E-Gr	Silver City, Miss.
Brewer, William M.	E-F	Fayetteville
Brewster, Vivian	A-S	Prairie Grove
Brewster, William R.	A-So	Pine Bluff
Bridges, Garvin R.	Ed-So —	Kedron
*Bristow, Rilla	Ed-F —	Ozark
Brown, Hazel	Ed-So —	Fayetteville
Brown, Max	E-T	Little Rock
Brown, Robert W.	A-Sr	Adams
Browne, Ada L.	Ed-F —	Piggott
Browne, Sara Hazel	A-J	Fayetteville
Bryant, Louise	A-S	Rogers
Bryant, Marguerite	A-S	Westville, Okla.
Buchanan, Henrietta E.	Ed-F —	Fayetteville
Buechley, Florence E.	Ed-So —	Carlisle
Burkett, Carl C.	E-F	Camden
Burrow, Frederic H.	A-So	Altus
Rutler, James H.	Ag-F	Van Buren
Cabe, Mary Ethel	Ed-J	Rhea
Cabeen, A. Catherine	A-Sr.	Fayetteville
Cabler, Cleveland S.	A-S	Fordyce
Callahan, Jean A.	A-So	Fayetteville
Callahan, Margaret E.	Ag-J	Fayetteville
Campbell, Kate	Ag-So	Fayetteville
Campbell, Charles M.	Ag-F	Russellville
Campbell, Martha E.	A-F	Van Buren
Campbell, Robert A.	A-F	Foreman
Campbell, Wm. Peyton	Ag-J	Augusta
Cannon, Arthur R.	Ed-So —	Fayetteville
Cantrell, George A.	E-F	Bellefonte
Cantrell, Catherine	Ed-F —	Bellefonte
Cantrell, Walter T.	E-Sr	Bellefonte
Cargile, Clifton K.	E-F	Bentonville
Carl, Isola	A-S	Siloam Springs
Carmichael, Lentes	A-J	Little Rock
Carolan, H. Clem	Ed-Sr —	Booneville
Carolan, T. Lester	E-S	Booneville
Carroll, John C.	A-Sr	El Dorado
Carroll, John J.	Ed-So —	Charleston
Carter, James I.	E-J	Springdale
Casey, John E.	Ag-So	Boxley
Chamberlain, Maurice S.	E-F	Malvern
Cheever, Edwin H.	A-J	Richmond
Cherry, Robert M.	E-So	Paris
Cherry, Rufus L.	A-So	Paris

\*Deceased.

NAME	COURSE	HOME ADDRESS
Childers, William L.	E-So	Newport
Chotard, R. Craig	E-F	Lake Village
Christopher, Freelin	E-So	Pine Bluff
Church, Maury A.	E-T	Camden
Clardy, Richard K.	A-So	Malvern
Clark, Cecil L.	E-Jr	Malvern
Clark, C. Ernest	A-So	Jasper
Clark, Glen	A-F	Malvern
Clark, James A.	Ag-So	Fort Smith
Clement, Don D.	E-T	Mena
Cochran, Maurice W.	E-Jr	Fayetteville
Cochran, Paul B.	A-F	Fayetteville
Coffey, Elizabeth L.	Ed-F	Fayetteville
Coffey, Jewell Yvonne	Ed-J	Fayetteville
Coffield, Henry A.	E-T	Fordyce
Coker, Marion B.	E-Sr	Fayetteville
Coleman, James W.	Ed-F	Strong
Coleman, Mac	Ag-J	Fayetteville
Collamore, Loftus J.	E-T	Little Rock
Collett, Dixie D.	Ag-F	Benton
Collins, Cora Clyde	A-F	Fayetteville
Compton, Thomas J.	E-T	Wing
Conley, George D.	E-F	Paris
Conner, Christine	A-So	Fayetteville
Conner, Laura	A-F	Fayetteville
Conway, Helen	Ed-So	Paris, Tex.
Cook, Edwina	Ed-So	Hot Springs
Cook, Jake M.	Ag-F	Fayetteville
Cooperrider, Luke	E-T	Pea Ridge
*Corzine, J. Watson	E-F	Mulberry
Costen, James B.	A-Sr	Paragould
Courson, Wm. Hershia	A-Sr	Hamburg
Covington, Maxie	Ed-J	Fort Smith
Craig, Alfred H.	A-J	Little Rock
Craig, Gladys J.	Ed-F	Hot Springs
Crane, William Covey	Ag-F	Fort Smith
Crate, Rosemary	Ag-F	Tulsa, Okla.
Critz, Eileen Adair	Ag-J	Searcy
Crosby, Howard B.	A-F	Heber Springs
Curl, W. Robert	E-T	Malvern
Curtice, Anna Del	A-F	Fayetteville
Daniels, John B.	Ag-So	Dermott
Davidson, Gene	Ed-F	Fort Smith
Davidson, Junius	Ag-F	Marvell
Davidson, Olive S.	Ed-F	Hardy
Davis, Jeff	A-So	Little Rock
Davis, Pearl A.	Ed-F	Fayetteville
Dean, Thomas O.	A-F	Star City
Decker, Kivi Kivia L.	Ed-Gr	Fayetteville
Decker, Klerchia L.	A-Sr	Fayetteville
Dibrell, Artilla	A-F	Van Buren
Dildy, Clell	A-F	Nashville
Dotson, Ethel	Ed-So	Huntsville
Douthit, Jessie C.	E-So	Stephens
Dowd, Lawrence S.	Ag-F	Fort Smith
Dowell, Gladys	Ag-So	Fayetteville
Dowell, Ruby	A-F	Fayetteville
Downs, Ray R.	E-Sr	Fordyce
Drain, Thelma	Ag-F	Fayetteville
Dubs, Ford H.	E-Sr	Fayetteville
Dudney, William C.	Ed-F	Magnolia
Dunlap, Ethel Mae	Ed-F	Helena
Dunn, Henry S.	A-Sr	Van Buren
Dunnahoo, Herbert L.	A-S	Benton
Dunnahoo, Earl J.	A-S	Benton
Dutt, Perl M.	Ag-F	Fayetteville

\*Deceased.

NAME	COURSE	HOME ADDRESS
Dyer, Frances	Ag-So	Fayetteville
Dyer, M. Julian	Ag-So	Fayetteville
Eichelberger, Orion H.	Ed-F —	Soudan
Eichelberger, Mark W.	Ed-So —	Soudan
Eld, Ellen Eva	Ed-Sr —	Bentonville
Ellington, Frederick M.	E-Sr	Eureka Springs
Ellison, Fred	Ag-F	Atkins
Ellison, Herbert S.	Ed-F —	Ola
Eppes, Geneva	A-S	Benton
Erganbright, Horace R.	Ed-So —	Judsonia
Evans, John S.	E-T	Ola
Evatt, Blanche A.	Ed-F —	Waldron
Faison, Bert L.	A-F	Texarkana
Faist, Herbert	A-So	Bigelow
Felton, Lula	A-F	Fayetteville
Ferguson, Christelle	A-I	Homer, La.
Fish, Roy J.	E-So	Garnett
Fisher, Chester L.	A-F	Hazen
Fisher, Doris R.	Ag-F	Little Rock
Fisher, Merlin	Ed-I	Hazen
Fletcher, Read	Ag-F	Pine Bluff
Flinn, Heber H.	Ag-Sr	Little Rock
Flora, Ben C.	A-I	Brinkley
Ford, Clarence B.	A-I	Sulphur Rock
Ford, Spurgeon	A-F	Lonoke
Forgy, Grady H.	A-S	Mena
Forrest, Clay	Ag-F	Siloam Springs
Forrest, Grace	A-Sr	Siloam Springs
Forrester, Charlie Vera	A-F	Waldron
Fox, Leora	Ag-So	Van Buren
Frappia, L. Armel	E-F	Lincoln, Neb.
Frazier, Elmer H.	Ed-Sr	Havana
Freeman, Leslie L.	Ag-F	Marianna
Fulbright, Anna	A-F	Fayetteville
Furr, Beatrice I.	A-F	Arkansas City
Gay, Hubert M.	E-T	Little Rock
Gibson, Thomas A.	A-So	Black Rock
Gilbreath, Bernice	A-So	Fayetteville
Gill, Thomas Tapscott	A-Sr	Little Rock
Gilmore, Lucille	Ag-I	Fayetteville
Gladson, Hazel	Ag-S	Fayetteville
Gladson, Marion G.	A-Gr	Fayetteville
Gold, Marjorie A.	A-So	Fayetteville
Gollaher, Pearl G.	Ed-F —	Fayetteville
Goode, Fannie B.	Ed-So —	Helena
Gordon, Minor	Ag-F	Prescott
Gordon, Ruth	Ag-So	Prescott
Grabiell, Ruth	Ed-So —	Fayetteville
Gray, Julius C.	A-Sr	Guy
Grayson, William B.	A-F	Paragould
Greaves, Bernice	A-So	Fayetteville
Greaves, Clifton D.	A-Sr	Fayetteville
Greenfield, John M.	E-S	Batesville
Greenhaw, Mary B.	Ed-I —	Fayetteville
Hale, Harvey S.	Ag-F	Prescott
Hall, F. Preston, Jr.	Ag-S	Fayetteville
Hall, Harold H.	A-F	Bentonville
Hall, Mabel K.	Ed-F	Fayetteville
Hall, Willis L.	Ag-Sr	Waldron
Hall, Willis T.	Ed-F —	Mountain View
Hamby, Wells B.	A-F	Prescott
Hamilton, A. H.	E-Gr	Winchester, Tenn.
Hamilton, Georgia Ray	Ag-F	Fayetteville
Hamilton, Paul C.	E-So	Hartford
Hamilton, Scott D.	A-S	Fayetteville
Hammett, Richard L.	E-So	Claremore, Okla.
Hannah, Paul D.	E-F	Fayetteville
Hardin, Temple	E-F	Fort Smith

NAME	COURSE	HOME ADDRESS
Harding, Horace H.	Ag-F	Fayetteville
Harper, Constance W.	Ag-F	Hot Springs
Harrel, Tracy L.	Ag-F	Louisville
Harrington, Alice R.	Ag-J	Fayetteville
Harris, Caroline L.	Ed-F	Newport
Harris, Hadley	A-Sr	Fayetteville
Harris, Robert D.	A-So	Fayetteville
Harvey, Ruby P.	Ed-F	Waldron
Harville, William E.	A-Sr	Augusta
Hay, Walker Clifton	A-So	Fayetteville
Hayden, Ransom S.	A-F	Mount Olive
Haynie, Otis R.	A-F	Prescott
Hays, L. Brooks	A-F	Russellville
Heard, John Archie	Ag-F	Womble
Heath, Irwin J.	Ag-So	Magnolia
Hedrick, Gideon E.	Ag-So	Fayetteville
Heerwagen, Paul K.	Ag-F	Fayetteville
Heerwagen, Ruth Marie	Ed-F	Fayetteville
Hemphill, Mary G.	Ed-So	Richmond
Henderson, Edward C.	E-F	DeQueen
Henderson, Everett Lee	E-F	Rogers
Henderson, Walter D.	E-So	Lone Wolf, Okla.
Hendrix, William C.	A-So	Hamburg
Henson, Harold E.	A-F	Fayetteville
Henson, John A.	A-J	Judsonia
Herring, Gibbs	Ed-F	Warren
Hicks, Homer M.	E-T	Fayetteville
Higgs, Morton T.	E-Sr	DeQueen
Hight, Robert L.	E-T	Fayetteville
Hilton, Amelia D.	Ag-F	Pueblo, Colo.
Hilton, Esther	A-Sr	Pueblo, Colo.
Hinds, Helene L.	A-Sr	Fayetteville
Hinds, Hubert	Ag-F	Fayetteville
Hinkle, Frank C.	E-T	Mansfield
Hinton, Clifton B.	Ag-F	Stamps
Hodges, Bessie P.	Ag-F	Westville, Okla.
Hoeftzel, Pauline R.	A-F	Little Rock
Hoeppner, Clifford A.	A-F	Little Rock
Holiman, Ernest E.	E-T	Bigelow
Hollabaugh, Gladys	A-So	Marshall
Hollett, Carol E.	Ed-F	Fayetteville
Hollett, Otho	Ed-F	Fayetteville
Hollett, Chas. M.	A-F	Fayetteville
Holman, Frances V.	A-F	Mena
Holmes, Daniel N.	Ed-F	Valley Springs
Holt, James A.	E-S	Lonoke
Hon, Mildred F.	Ed-So	Fort Smith
Hooss, Harry A.	A-F	Heber Springs
Horner, John C.	Ag-F	Hot Springs
Horner, Zena	A-F	Hot Springs
Horton, Gertrude	Ed-J	Arkadelphia
Horton, Horace R.	E-Sr	Fort Smith
Horton, William G.	E-Sr	Fort Smith
Howell, Ruth I.	A-So	Foreman
Huddleston, J. McKean	Ed-F	Center Point
Hulse, Mack	A-S	Fayetteville
Hulse, Melba	A-S	Fayetteville
Hunt, Ralph B.	A-Sr	Dardanelle
Hunt, Raymond C.	E-F	Southeast City, Mo.
Hurlock, Lloyd	A-F	Siloam Springs
Huston, Mary	Ag-J	Fayetteville
Hilling, Leo M. H.	A-J	Little Rock
Irby, Guy	E-So	Muskogee, Okla.
Irby, Nolan M.	A-Sr	Booneville
Jackson, Floyd J.	E-F	Hardy
Jackson, William H.	A-So	Mena
Jacobs, Royle W.	E-T	Fayetteville

NAME	COURSE	HOME ADDRESS
Jenkins, Catherine	A-J	Little Rock
Jobe, Dalton LeRue	A-F	Fayetteville
Johnson, Bryon E.	Ag-J	Waldo
Johnson, Scot	A-So	Fort Smith
Johnston, Jacob A.	E-So	Ozark
Jones, D. Webster	Ag-J	Little Rock
Jones, Reece W.	Ag-S	Fayetteville
Jones, Egbert A.	Ag-S	Fayetteville
Jordan, Kara	Ed-So	Fayetteville
Jorden, Grace	Ag-S	Womble
Jory, Sam	E-F	Fayetteville
Kapp, Dauphine	Ag-S	Camden
Kcener, Edith S.	Ed-F	Harrison
Kemper, Carman C.	A-F	Siloam Springs
Kennan, James D.	A-F	Fayetteville
Kennard, Robert C.	Ag-F	Fayetteville
Kennard, William S.	Ag-F	Fayetteville
Kernodle, Mary C.	A-F	Fort Smith
Kerr, Sarah C.	A-F	Fayetteville
Ketchum, John L.	A-So	Stuttgart
Key, Collis E.	A-F	Foreman
Key, Annie M.	Ed-So	Magnolia
King, Her	A-Sr	Homer, La.
Kitchens, Chester E.	A-S	Magnolia
Kitchens, Clyde B.	A-F	Magnolia
Kitchens, Louis T.	E-J	Paragould
Klausmeier, Ruth Marie	E-So	( abot
Kneeland, Ruth B.	A-F	Dallas, Tex.
Knerr, Irene.	A-Sr	Fayetteville
Knoch, Elmo, A.	E-Sr	Fayetteville
Knott, John H.	E-F	Bentonville
Kolb, James R.	E-T	Ola
Kone, Evelyn	Ag-S	Dermott
Kühnert, Ruth	Ed-F	Fayetteville
Kuykendall, Samuel J.	E-So	Fort Smith
Lake, Winfred	A-F	DeQueen
Landron, Reuby	Ed-F	Fayetteville
Landrum, John B.	A-F	Paragould
Lamier, John T.	Ag-F	Forrest City
Lano, Mildred	A-Sr	Fayetteville
Lawson, Hugh	A-J	Fayetteville
Lawson, Lillian	A-S	Fayetteville
Leach, Luther O.	A-S	Scranton
Lee, Arthur F.	Ag-J	Little Rock
Lee, Lucas S.	E-Sr	Fayetteville
Lee, Mildred E.	Ed-F	Little Rock
Lee, Wendell D.	A-Sr	Center Point
Lee, Wm. McGuire	Ag-F	Center Point
Leitzell, Velma	A-So	Springdale
Lenox, Pauline	Ag-S	Little Rock
Leverett, Donna	Ed-F	Fayetteville
Leverett, Gorham V.	Ed-F	Fayetteville
Levy, Jewell J.	Ed-J	Fayetteville
Lewis, Madge E.	Ed-F	Fayetteville
Liebolt, Leona	Ed-So	Fayetteville
Lincoln, Adaline	A-Sr	Van Buren
Lipscomb, John S.	E-T	Bigelow
Little, Jane E.	A-S	Texarkana
Little, Julian	Ag-F	Conway
Lockharte, Jayne Dorothe	A-So	Clarendon
Logan, Robert R.	E-F	Fayetteville
Love, G. Robert	A-S	Rogers
Lucas, Henry A.	Ag-F	Fayetteville
Lutterloh, Charles H.	A-F	Jonesboro
Lyle, James E.	E-F	Helena
Machen, Hughes	E-F	Magnolia
Markle, Dane H.	E-T	Fayetteville

# LIST OF STUDENTS

195

NAME	COURSE	HOME ADDRESS
Markle, Eva C.	Ag-J	Fayetteville
Martin, Ray	Ag-Sr	Austin
Mason, T. Allen	A-F	Bradford
Massey, Joe B.	Ag-So	Morrilton
Mastin, Theresa	A-F	Fayetteville
Mathews, Ben B.	A-Sr	Pine Bluff
Mathews, Earl B.	A-F	Louisville
Matthews, Jim P.	A-Sr	Horatio
May, Guy G.	Ed-F	Waldron
McAteer, James T.	Ed-F	Fort Smith
McBride, John E.	A-Sr	Fort Smith
McCaleb, T. Maxey	A-F	Williford
McCartney, Norman A.	Ag-F	Fayetteville
McConnell, Willard W.	Ed-Sr	Charleston
McCoy, Nora	Ag-J	Fayetteville
McCoy, Aileen	A-So	Fayetteville
McCullough, Gladys O.	A-F	Fayetteville
McDaniels, Vollie B.	E-So	Rogers
McDonald, Charles P.	Ed-So	Fayetteville
McDonald, Dorothy	A-So	Fayetteville
McDonald, Guy W.	A-J	Fayetteville
McDonald, Louise	A-Sr	Fort Smith
McGaughy, John B.	E-J	Pine Bluff
McGaughy, James P.	A-F	Pine Bluff
McGill, Joseph T.	Ag-F	Chidester
McIlroy, Martye B.	A-So	Fayetteville
McIntosh, Carrie	Ed-F	Lonoke
McKinney, Ruth	A-Sr	Conway
McLachlan, Roy L.	E-F	Huntington
McLees, M. Willie	Ag-F	Little Rock
Meadows, Coy T.	E-T	Danville
Mehlburger, Gertrude A.	A-J	Fort Smith
Melton, Joe P.	A-S	<b>Lonoke</b>
Mendenhall, Ruby T.	Ag-J	Rosston
Merrill, Walter D.	E-J	Rogers
Middlebrooks, Edna	A-Sr	Hope
Middlebrooks, Pearl	Ed-SO	Hope
Milburn, Bryan L.	A-S	Fayetteville
Milburn, John B.	E-J	Fayetteville
Millar, Paul H.	Ag-F	Little Rock
Miller, Alma	A-F	Fayetteville
Miller, Geoa L.	E-T	Fayetteville
Mills, Clarence M.	E-F	Eufaula, Okla.
Milton, Wallace M.	E-F	Ozark
Mitchell, Emmett E., Jr.	A-J	Morrilton
Mitchell, William M.	A-So	Morrilton
Mixon, Andrew H.	Ag-F	Marianna
Moffitt, J. Alfred	A-F	Bentonville
Moncrief, Peyton D.	A-So	DeWitt
Monteath, Mabel	A-F	Little Rock
Moody, Julius C.	E-F	Bald Knob
Moore, G. Fred	E-F	Gordon
Moore, Herschel A.	E-F	Greenwood
Moore, Ione	A-S	Rogers
Moore, John I.	A-J	Helena
Moore, Leone	Ed-F	Fayetteville
Moore, Lucille	A-Sr	Carthage, Mo.
Moore, Vaughan H.	E-J	Fayetteville
Moore, Verda	Ed-F	Rogers
Morgan, Gladys	A-S	Eldorado
Morgan, Robert L.	A-So	Mena
Morrow, Franklin H.	E-F	Piggott
Morton, Clark	A-F	Fort Smith
Morton, Ruth	A-F	Fort Smith
Mott, Henry	E-F	Fayetteville
Mullins, William E.	A-F	Texarkana
Mulrenin, Barnard C.	E-F	Fayetteville



NAME	COURSE	HOME ADDRESS
Munn, Wm. Tracy	A-F	Fayetteville
Murphy, Elizabeth	Ed-F	Fayetteville
Murphy, Elizabeth L.	A-F	Hot Springs
Murphy, Gertrude C.	A-S	Fayetteville
Murphy, Henrietta	Ed-F	Fayetteville
Murphy, John R.	A-S	Fayetteville
Musselman, Ada	Ed-F	Fayetteville
Myers, Carlton B.	A-J	Helena
Neal, Lucille	A-S	Prairie Grove
Neely, Virginia	A-F	Fayetteville
Nelson, Irene H.	Ag-So	Fayetteville
Nelson, Will E.	E-So	Fayetteville
Neville, Keran	A-F	Buck Knob
Nichols, Leo A.	Ag-F	Pine Bluff
Nisbett, James M.	A-F	Jonesboro
Northum, T. M.	E-Gr	Salt Lake City, Utah
Norwood, Ellen	A-So	Little Rock
Nunn, Harvey E.	E-Sr	Blue Mountain
Nyegaard, John Wesley	Ag-F	Fayetteville
Oates, Franklin B.	Ag-J	Pottsville
O'Bar, Blanche C.	Ed-F	Charleston
Oldham, William K.	Ag-F	Lonoke
Oliver, F. L.	Ag-F	Eureka Springs
Oliver, James W.	A-Sr	Eureka Springs
O'Neal, Ernest P.	E-So	Hope
O'Neal, Lloyd E.	E-Sr	Rogers
Osborne, Virginia	A-Sr	Fort Smith
Overstreet, Elizabeth	A-So	Little Rock
Overton, Minnie E.	Ed-J	Greenway
Owen, Clinton M.	A-Sr	Mansfield
Pace, Carrie G.	Ed-S	Fayetteville
Palmer, LeRoy C.	Ag-J	Fayetteville
Pape, Frank D.	E-J	Van Buren
Parke, Effie P.	Ed-J	Pocahontas
Parker, Elmo L.	E-So	Cleveland
Parker, Eugene A.	E-S	Plumville
Parsons, Lloyd C.	E-Sr	Fayetteville
Paul, Claud	E-Gr	Flatbush, L. I.
Payne, Elmer C.	E-So	Forrest City
Payne, Webster	E-Sr	Forrest City
Peden, Orchid E.	A-So	Fayetteville
Peel, Marion E.	Ag-S	Bentonville
Pendleton, H. Fleet	E-So	Junction City
Pendleton, Myrtle L.	Ag-So	Junction City
Perdue, Gordon A.	A-F	Pine Bluff
Perdue, Jasper N.	A-F	Wilmot
Perkins, Harry E.	E-So	Eureka Springs
Perkins, Ruby V.	Ag-S	Fayetteville
Philbrick, Leighton A.	E-S	Fayetteville
Phipps, Harvey G.	E-T	Fayetteville
Pickens, Mary	Ed-F	Rogers
Pierce, Lewis O.	Ed-F	Harrison
Pitts, Louise	Ed-So	Russellville
Polk, Luida	A-J	Fayetteville
Porter, Paul L.	E-So	Fayetteville
Porterfield, Neva M.	Ed-F	Fayetteville
Prather, Marian	Ed-F	Fort Smith
Pratt, Evangeline	Ed-F	Fayetteville
Prothro, Roy E.	A-F	Little Rock
Pyeatt, George P.	E-F	Cane Hill
Quaile, Beatrix	Ed-So	Fort Smith
Ragsdale, John G.	A-F	Cairo
Rainwater, Sloan	Ed-So	Imboden
Ramsay, William F.	E-F	Nashville
Ramsey, Henrietta E.	A-F	Fayetteville
Ramsey, Marion Adele	A-So	Fayetteville
Rankin, Richard C.	A-F	Jonesboro

NAME	COURSE	HOME ADDRESS
Rankin, Fay S.	A-So	Jonesboro
Rawlings, Archie F.	A-F	Little Rock
Rawlings, Aubrey J.	Ed-J	Judsonia
Ray, Howard L.	Ed-F	Cauthron
Reed, Courtney A.	A-F	Magnolia
Reed, Mary Louise	Ag-F	Fayetteville
Reed, Laurence Neill	A-S	Heber Springs
Reeves, Ruth	Ed-F	Green Forest
Reichardt, Chris	E-F	Fort Smith
Reid, George H.	Ag-F	Fort-Smith
Rice, Allen W.	E-T	Fayetteville
Rice, Donald M.	E-F	Fayetteville
Rice, Phillip X.	E-Sr	Bentonville
Richardson, Chalmers O.	A-So	Eureka Springs
Richardson, John E.	A-F	Fayetteville
Kidling, Little	Ag-Sr	Mena
Rhodes, Kathleen M.	Ed-F	Green Forest
Robinson, Hale H.	E-So	Hope
Robinson, Hugh B.	A-F	Stamps
Rodgers, Eunice L.	A-Sr	Fayetteville
Rogers, Clementine	Ed-Sr	Prairie Grove
Rogers, Julian	A-Sr	Prairie Grove
Romine, Hazel E.	Ed-F	McGhee
Rosencrantz, Franklin C.	Ag-Sr	Fayetteville
Ross, Una May	Ed-F	Charleston
Rosser, Mildred	A-F	Dallas, Tex.
Rudd, James T.	A-Sr	Fayetteville
Kuff, Horace E.	E-F	Heber Springs
Russell, Martha Jean	A-F	Pine Bluff
Russell, Nona	A-So	Ashdown
Ryan, Rose	A-F	Fort Smith
Rye, Stephen	Ag-F	Van Buren
Sadler, Ralph A.	Ag-F	Booneville
Sadler, William P.	A-Sr	Van Buren
Sailor, Lela P.	Ed-So	Bigelow
Sailor, Vance L.	A-J	Bigelow
Sain, David B.	A-F	Nashville
Sandlin, John C.	E-F	Ola
Sanford, Bess L.	Ed-So	Pine Bluff
Scales, Emmett W.	A-S	Eagle Mills
Scarlett, Winton C.	E-I	Russellville
Schaller, George J.	E-T	Evansville, Ind.
Sconce, Wright W.	Ag-F	Edgar, Neb.
Scott, Mary Louise	Ag-So	Prescott
Scott, John R.	E-F	DeQueen
Scott, S. Blake	E-So	Prescott
Scown, William C.	E-T	Springdale
Scroggin, Jessie K.	E-T	Morrilton
Scurlock, Stella	A-J	Piggott
Searcy, R. L., Jr.	A-F	Louisville
Sears, Otis B.	U	Fayetteville
Sears, Mrs. Otis B.	Ed-Sr	Fayetteville
Seward, Marguerite	A-F	Fayetteville
Shackleford, John M.	A-F	Little Rock
Shadrach, Will S.	E-So	Kingsland
Shannon, Mary E.	Ed-Gr	Fayetteville
Sharp, James E.	A-I	Prairie Grove
Shell, Mary	A-F	Rosston
Shifflett, Joseph J.	Ag-F	England
Shinn, Jarvis B.	A-F	Western Grove
Short, Gilbert Y.	A-J	Maynard
Shreve, Ralph W.	Ed-F	Farmington
Shumaker, Clarence A.	E-F	Shirley
Sibley, Velma C.	Ed-F	Pine Bluff
Simco, Allie	A-I	Fayetteville
Simmons, Theola	A-F	Pine Bluff
Simmons, Una	A-S	Benton

NAME	COURSE	HOME ADDRESS
Simms, Lucie C.	A-So	Little Rock
Simpson, Floyd B.	A-S	Fayetteville
Simpson, Verdelle	Ag-F	Hamburg
Sims, Claud D.	A-J	Brinkley
Singles, Vernon E.	E-S	Newport
Skaggs, Lester C.	Ag-F	Rogers
Skillern, James E.	Ag-S	Pangburn
Sloan, Chester E.	Ag-F	Morrilton
Smith, Carr	Ag-F	Fayetteville
Smith, Douglas O.	Ed-F	Waldron
Smith, Earl W.	Ag-Sr	Fayetteville
Smith, Finley B.	Ed-J	De Queen
Smith, George A.	E-F	Fort Smith
Smith, Harold A.	A-Sr	Searcy
Smith, Henry W.	Ed-So	Tyro
Smith, Isabelle K.	A-F	Fayetteville
Smith, Lydle P.	Ag-F	Siloam Springs
Smith, Mabel W.	A-F	Fayetteville
Smith, Malvin H.	E-F	Magnolia
Smith, May	Ed-So	Fayetteville
Smith, Norman M.	E-So	Pine Bluff
Smith, Ophelia	Ed-F	Springdale
Smith, Oscar D.	Ag-Sr	Hamburg
Smith, Velma	A-F	Paris
Smythe, Peter E.	E-So	Fayetteville
Snyder, Bryan J.	A-J	Rogers
Sour, Stanley S.	A-S	Fayetteville
Speer, Jeff	A-So	Mount Ida
Stansberry, Ernest E.	E-F	Little Rock
Stearns, Bryan	Ag-So	Fayetteville
Stevenson, Eberle U.	E-S	Marianna
Stevenson, James E.	Ag-J	Dardanelle
Stewart, Olive M.	Ed-F	Van Buren
Stevens, Ada	A-F	Fayetteville
Stobaugh, Forest H.	Ag-F	Springdale
Stockburger, Emmett O.	Ag-S	Fayetteville
Stokes, J. Marshall	Ed-F	Havana
Stokes, Wm. Samuel	A-F	Evening Shade
Stone, Clara I.	Ed-F	Waldron
Stone, Hilda H.	Ed-J	Waldron
Strange, Fred H.	A-F	Stamps
Stuart, George B.	A-F	Texarkana
Stuart, James E.	A-So	Texarkana
Stuckert, Harry E.	E-T	Bigelow
Stuckey, Willy L.	Ed-S	Johnson
Styron, Marv	Ed-F	Monticello
Sugg, Alfred R.	A-F	Belleville
Sullivan, Harry	A-S	Waldron
Summers, Thomas L.	Ag-F	Augusta
Svkes, Mary G.	A-F	Richmond
Takata, N. I.	E-Gr	Koka, Japan
Tanner, Joe L.	A-J	Blytheville
Tanner, Mena H.	Ag-Sr	Helena
Tarver, Vernon	E-S	Star City
Taylor, Beloit	A-F	Corning
Taylor, Charles E., Jr.	A-J	Little Rock
Taylor, Elizabeth	Ag-F	Siloam Springs
Taylor, Irene O.	A-Sr	Paragould
Taylor, Norman	Ag-S	Lonoke
Teague, Willis L.	E-So	Amity
Teeter, Gladys M.	A-F	Fayetteville
Tennyson, Ed "J"	E-T	Bellefonte
Thaxton, Ben B.	E-So	Fayetteville
Thomas, Alvin N.	E-Sr	Gurdon
Thomas, James W.	Ed-F	Branch
Thomas, Charles O.	E-T	Little Rock
Thompson, D. Lloyd	E-T	Jonesboro
Thompson, Jerome F.	Ag-F	Fayetteville
Thompson, Jonah I.	Ag-F	Rector

NAME	COURSE	HOME ADDRESS
Thompson, Orville C.	E-T	Fayetteville
Thomson, Isaac L.	A-F	Farmington
Thomson, Mary K.	A-F	Farmington
Tillman, Walter C.	A-S	Little Rock
Tipton, Goodwin	A-Sr	Forrest City
Tollett, Mamie J.	A-So	Fayetteville
Torrence, Julia L.	Ed-So	Fayetteville
Torrence, Lenna F.	Ag-S	Fayetteville
Townsend, Harold W.	A-F	Mammoth Springs
Trahin, J. Eugene	Ed-So	Fayetteville
Triesch, Conrad R., Jr.	Ed-I	Osage
Trimble, James W.	Ed-F	Fort Smith
Turner, John B.	A-So	Branch
Turner, William O.	E-F	Lonoke
Tushck, Rudolph R.	E-F	Lake Village
Tyler, Floyd F.	A-S	Excelsior
Tyson, Lucille D.	Ed-F	Harrison
Tyson, Rufus W.	E-S	Atkins
Uzzell, Jack	Ed-S	Pecan Point
Uzzell, Spencer S.	E-F	Pecan Point
Valentine, Opie	E-T	Charleston
Vance, James H.	A-F	Fayetteville
Vaughan, Clarence P.	Ag-F	Sulphur Rock
Vaughan, Don Dye	Ag-S	Sulphur Rock
Vernon, Irving J.	A-F	Coweta
Vestal, Howell	Ag-F	Little Rock
Vickers, Cora N.	Ed-F	Fayetteville
Vineyard, Lloyd W.	Ed-F	Greenwood
Vineyard, Marion	Ed-S	Helena
Vineyard, Mittie E.	Ed-So	Greenwood
von Jagersfeld, Evelyn	Ed-So	Hope
Wachter, Virginia	Ed-So	Little Rock
Wade, Junie S.	E-F	Atkins
Walker, James Byrnes	Ag-F	Fayetteville
Walkup, Robert M.	A-I	Havana
Ward, Zora A.	Ed-F	Fayetteville
Warner, Wm. Preston	E-I	Fayetteville
Warren, Gladys H.	A-F	Pine Bluff
Watts, Charlotte A.	Ed-F	Prairie Grove
Watts, Edith	Ed-F	Prairie Grove
Webb, Ralph	Ed-F	Fayetteville
Webb, Ray	Ed-F	Fayetteville
Weld, Dana P.	A-I	Marianna
Wells, George C.	E-Sr	Fayetteville
West, Sebastin R.	A-F	Sheridan
Wheeler, Harold E.	A-F	Fayetteville
Wheless, Herbert	E-F	Warren
White, Carita A.	Ag-So	Fayetteville
White, Eddie S.	A-Sr	Fayetteville
White, Emma T.	Ag-So	Dumas
White, Sidney V.	A-F	Rosston
Wilkes, James C.	Ed-Sr	Star City
Wilkinson, Margaret L.	Ed-I	Fayetteville
Willey, Charles C.	Ag-So	Wabbaseka
Willey, George W., Jr.	Ag-I	Helena
Williams, Edna P.	Ed-I	Fayetteville
Williams, Harvey A.	E-T	Nashville
Williams, Walter E.	Ag-F	Morrilton
Willis, Richard B.	E-F	Fayetteville
Willis, Robert B.	Ag-F	Marianna
Willson, Grace A.	A-F	Ola
Willson, Arthur L.	E-I	Cabot
Wilson, Beulah M.	A-So	Rhea
Wilson, Carl V.	Ed-F	Fayetteville
Wilson, Donald D.	A-Sr	Fayetteville
Wilson, Oliver	Ag-F	Rogers
Wilson, William	Ag-So	Beebe

NAME	COURSE	HOME ADDRESS
Winfrey, George W.	Ag-F	Rudy
Winn, James A.	Ed-Sr	Russellville
Witt, Gibson, Jr.	A-So	Hot Springs
Womack, Vee	A-J	Hugo, Okla.
Wood, Hattie M.	A-Sr	Ashdown
Wood, Roscoe	A-Sr	Ashdown
Woods, Leon P.	A-J	Fayetteville
Woodall, Ethel C.	A-F	Little Rock
Woody, Sue	Ag-J	Fayetteville
Woodfin, Eugene L.	A-Sr	Brinkley
Woolf, Cora E.	Ed-So	Houston
Wooten, William R.	E-S	Russellville
Wozencraft, Andrew	E-T	Vale
York, Harvey A.	Ag-F	McCaskill
Young, Marian E.	Ed-F	Camden
Zoll, Allen A.	A-So	Fayetteville

# TRAINING HIGH SCHOOL

## 1915-1916

Abrams, Charles  
Adams, Lois  
Alexander, Rebecca  
Askew, Benjamin R.  
Aumick, Evan C.  
Baskin, Clara L.  
Baskin, Gray T.  
Bell, Aileen  
Bettes, Van Gaston  
Boyd, Bernice  
Boyd, Raymond M.  
Bradsher, Thomas A.  
Brockman, John A.  
Campbell, Robert  
Cannon, Julia S.  
Cannon, Maude A.  
Charlesworth, James R.  
Clark, Richard H.  
Colbert, Canfield, J.  
Colbert, Katherine C.  
Collett, Esther  
Conner, Cornelius  
Conner, Laura  
Cox, Ernest H.  
Crockett, Mary Elizabeth  
Davis, Edna B.  
de Roulhac, Jean M.  
de Roulhac, Paul J.  
Dyer, Ruth  
Eaton, Ross Aaron  
Earle, John Baylis  
Ellis, Katherine  
Guinn, Rachel  
Halliburton, Hughen C.  
Harris, Alva C.  
Hanna, Sadia Sybil  
Heard, Dewey  
Heard, Homer C.  
Hickey, Ada  
Hooss, Harry A.  
Irby, Annie  
Irby, Pettie May  
Ivey, Jim B.  
Jeffrey, Nina B.

Jones, Beulah  
King, Don  
Lewis, Odell  
Liebolt, Weldon  
Lynskey, Blanche  
Miller, Turner  
Mahaffey, Birchie  
Mahaffey, Grace Ula  
Mullins, Hugh A.  
Murphy, John  
Nation, Elizabeth D.  
Petty, Sarah  
Pyeatt, Henrietta  
Reed, Drada  
Robinson, Chloera M.  
Robinson, Leona  
Rudolph, Ione  
Samuel, Alfred G.  
Sanders, Mayme  
Scales, Emmett  
Seamster, Dora  
Shannon, Ruth  
Shrewsbury, Ola  
Simpson, Lucile Katherine  
Smith, Lee  
Smith, Mattie  
Sour, Rosa  
Sperry, Mayme L.  
Stansbury, William B.  
Stewart, Eva  
Stewart, William H.  
Stuckey, Willy Laura  
Teeter, Hazel  
Thornton, Onita K.  
Tolbert, Emily Lucile  
Wardrip, Narvel  
Wardrip, Schuyler C.  
Warren, Burrel T.  
Washington, Oran Mayo  
Wier, Otis L.  
Williams, Jessie Lee  
Willis, Jesse Gordon  
Willis, Virgil D.  
Young, Bertha Ida



# SUMMARY

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<i>College of Arts and Sciences:</i>		280
Graduates	1	
Seniors	46	
Juniors	34	
Sophomores	51	
Freshmen	112	
Specials	36	
<i>College of Engineering:</i>		162
Graduates	5	
Seniors	19	
Juniors	12	
Sophomores	28	
Freshmen	53	
Specials	9	
Trade Courses	36	
<i>College of Agriculture:</i>		139
Seniors	8	
Juniors	19	
Sophomores	22	
Freshmen	73	
Specials	17	
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Graduates	2	
Seniors	11	
Juniors	15	
Sophomores	35	
Freshmen	78	
Specials	4	
Winter Session:		726
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Maple Street

Arkansas Avenue

Corkland Avenue

Dickson Street

1. Ella Cornell Hall
2. Playhouse Hall
3. Chemistry Building
4. Green House
5. Agriculture Building
6. Extension Office
7. Experiment Station
8. Hospital
9. Hill Hall
10. Gray Hall
11. Buchanan Hall
12. Bath House
13. Shops
14. Engineering Hall
15. Dairy Building
16. Transformer
17. Grand Stand
18. Residence Foreman of Farm
19. Burns
20. Bleachers
- A.B.C.D. Tennis Courts

# CAMPUS UNIVERSITY of ARKANSAS

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ATHLETIC FIELD

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University Hall

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